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ARTICLE XVIII.

REPORT OF THE SPECIAL COMMITTEE ON DISEASES OF THE EYE.

BY E. L. HOLMES, M.D., of Chicago.

Presented to the Illinois State Medical Society, May, 1865.

As Chairman of your Committee on Diseases of the Eye, I would most respectfully report that I have received no communications either from members of the profession at large, or of this Society. This is to be regretted, for diseases of the eye are so prevalent in this State, they are the cause of so much misery, that they are certainly of sufficient importance to awaken special interest in every one devoted to the relief of physical suffering. This subject should not attract the attention of specialists alone. Whatever may be said in reference to the necessity of specialties, it is true there are certain classes of diseases of the eye which should be carefully investigated by general practitioners in the country, for upon them alone can patients suffering from these diseases depend for aid. These classes of disease are important, because they are common, and, if neglected, so often result in blindness or injury of vision. Other classes of disease, on the other hand, require more experience in observation, and practice in their surgical treatment, than most medical men can possibly acquire in their ordinary

routine of labors. The operation for extraction of cataract, for artificial pupil, the diagnosis of certain forms of diseases of the choroid or retina, and the use of the ophthalmoscope, require long and careful practice on the part of the student.

The science of medicine is too broad for any one to cultivate with success the whole of its wide domain. For this reason, no one can become really distinguished for skill and knowledge in all the different departments of medicine and surgery. On the contrary, nearly all those who have made most important discoveries, who have written works which are regarded as standard authorities in any branch of our science, have been those who have concentrated their energies upon one class of subjects. In Europe the position of specialists in our profession has been established beyond reach of criticism. In this country there seems to be less inclination on the part of the profession to recognize the necessity, or even advantage, of subdivision of labor in the practice of medicine. This prejudice exists, undoubtedly, in consequence of the ignorance and questionable character of a very large proportion of men engaged in the treatment of diseases of special organs. But specialties are no more responsible for this evil, than the science of medicine is responsible for the number of charlatans that pretend to worship at its altar.

The eye and ear are confessedly organs, of which the anatomy and physiology, with the treatment of their diseases, are not well understood by the vast majority of our profession. This arises, not from any particular difficulty of the subjects, but from a want of interest. The fact that a physician may become distinguished as a practitioner, and as a man of science, without a knowledge of ophthalmology, seems to foster this neglect of the latter, for it is well known that while affections of nearly every other organ affects the general health, comparatively few diseases of the eye or ear have much influence upon general diseases of the system. It seems scarcely just that members of the profession, who absolutely neglect the study of diseases of the eye and ear, should discountenance the efforts of those who find interest in ophthalmic science alone, sufficient

'o employ their best energies. Fortunately, as the profession recognizes the unlimited field of labor which the science of ophthalmology presents, there is less prejudice against well-educated specialists.

In reference to sympathetic ophthalmitis, and conjunctivitis, as it exists in this State, we would now add nothing to our former report, although we had hoped members of the Society would contribute some new facts regarding these diseases. At some future time, we may recall the attention of the Society to these subjects.

There are a few points in the diagnosis and treatment of iritis, which seem of sufficient importance to present to this Society. Inflammation of the iris is not an uncommon disease, and is not unfrequently misunderstood, and consequently maltreated by well-educated physicians. From the fact, that when left to nature, or when subjected to improper treatment, it almost invariably terminates in total or partial loss of vision, it is highly important that an early and correct diagnosis should be established. Those who have not had considerable experience in this disease, occasionally find difficulty in forming a diagnosis, from the fact that the disease is sometimes accompanied, almost from the first, with severe inflammation and œdema of the conjunctiva. One of the most important symptoms which can aid the practitioner in recognizing the disease, in many obscure cases, is the great indistinctness of vision, which cannot usually be accounted for by the degree of congestion of the mucous and sub-mucous membrane of the globe. When with this symptom, the character of the neuralgic pain in and around the eye, with the general appearance of the pupil, leave any doubt regarding the nature of the disease, a few drops of a solution of atropine, or one-eightieth of a grain of the salt itself, introduced between the lids, will usually remove all doubt, by the slow and irregular dilatation of the pupil.

The Society is well aware that, in the treatment of iritis, mercury has long been considered as the all-important agent. The experience, however, of several well-known oculists has shown that the disease may be treated successfully without it.

Although we have not discarded the remedy in the treatment of iritis, we are confident it is of secondary importance, as compared with atropia. This remedy should be applied either in the form of solution, or in substance, at the very earliest stage of the disease. It not only dilates the pupil, and thus prevents exudation from the pupillary edges of the iris from being deposited on the central portion of the lens, but it seems to exert a direct influence in reducing inflammation. Pain should be subdued, especially at night, by anodynes, either internally or in the form of sub-cutaneous injection near the eye. Although, instead of mercury, iodide of potash and turpentine have been used with great success by some, oculists generally have not ceased to place great confidence in mercury. The great objection to this remedy is not so much in its moderate use, as in its abuse. We are convinced, that with the early and free use of atropine, the profession will be inclined to administer mercury in much less quantities than usually given.

As the subject of cerebro-spinal meningitis has excited, of late, the attention of the profession, it may be a matter of interest to state that I have observed, during the past year, two cases of destructive choroiditis, dependent upon this disease. It is well known that several diseases, as small-pox, typhoid and puerperal fever, erysipelas, and serious affections of the heart, lungs, and liver occasionally develop acute or sub-acute choroiditis. We have already observed two cases of choroiditis, complicating severe erysipelas of the head and face.

In one of the former cases, in a child three years of age, the disease seemed to have been developed in one eye during the cerebral affection, and continued after the recovery from the primary disease as a sub-acute inflammation of the choroid and iris, which induced sympathetic ophthalmitis in the other eye. The child, when brought to my observation was totally blind.

In the other case, a boy seven years old was affected with choroiditis in the right eye. Six months after recovery from the primary disease, I found the globe slightly atrophied, and tender on pressure, with a calcareous lens attached to the iris. There was considerable irritation and photophobia in the other

eye. Although, I believe, in a majority of such cases, the extirpation of the eye first affected is, in nearly every respect, preferable to any other operation, I removed a portion of the iris and extracted the calcareous mass through a lineal incision in the cornea.

Two cases of paralysis of the muscles of the eye, following diphtheritic affection of the throat, have fallen under my observation. In one case, a female of middle age had suffered a dangerous attack of diphtheria. During recovery, the muscles of the soft palate became paralyzed, and soon after the muscles of both eyes. Two months after the attack, the muscles of the throat had nearly regained their normal power. The muscles of the eyes, however, remained paralyzed; the globes were absolutely motionless; the upper lids retained their normal movements; the pupils were somewhat dilated, and the power of accommodation quite imperfect. Under the use of iodide of potash for three weeks, the affection of the eyes and throat disappeared.

In the second case, the paralysis was confined to the third pair of nerves, and branches of the seventh pair, of the right eye, causing ptosis with extreme external strabismus, and paralysis of the muscles of the right side of the face.

There are some obscure points in the connection between Bright's disease of the kidneys, and certain affections of the retina, which, we believe, merit the attention of the Society, as giving scope for investigation.

What form of albuminaria is most liable to complication with fatty degeneration of the retina? How large a proportion of patients affected with albuminuria suffer from amaurotic symptoms? It is worthy of notice that in these cases of retinitis, the affection of the kidney can be diagnosticated with almost absolute certainty, by the ophthalmoscopic appearances of the retina alone. During the past year, I have been consulted in two cases of amaurotic disease of the eye, in both of which the ophthalmoscopic appearance of the retina led to the suspicion that the patients were suffering from albuminuria. The examination of the urine confirmed the opinion.

There are several modifications in important operations upon the eye worthy of the attention of the Society, but I would prefer to report upon them at some future time. I will, however, briefly allude to a modification in the operation for the extraction of hard cataract. It is well known that two of the principal dangers in the extraction of hard cataract, consist in injury of the iris by the passage of the hard lens through the contracted pupil, and in the presence of fragments of cortical substance of the lens remaining in contact with the iris. The modification to which I refer, and which, I believe, was first introduced by GRÆFE and MOOREN, consists in tearing out a portion of the iris, as in the operation for artificial pupil. This enlarges the opening through the iris sufficiently to permit the passage of the lens without seriously stretching the circular fibres of the iris. Moreover, the facility for removing all the fragments of the cortical substance is increased. The extraction should be performed in the usual way, at a period of about four weeks after the preliminary operation upon the iris. This modification in extraction of cataract has been highly recommended by several eminent ophthalmic surgeons. I have operated in four instances in the manner described, in all of which, the most favorable results of the operation were, undoubtedly, to a great extent dependent upon the *readiness* with which *every portion of the lens* was removed.

After operations of extraction, I have, for some time, followed GRÆFE'S advice, to cover the eye with a soft cushion of lint, equally distributed over the whole opening of the orbit, and hold it quite firmly in place, by means of a band around the head. This serves to retain the edges of the cornea in place; to prevent general congestion of the eye, and *especially of the choroid*, which is liable, after such operations, to suffer congestion and inflammation, in consequence of the reduction of intra-ocular pressure.

There are two or three subjects of general interest to the profession, relative to the cultivation of ophthalmic science, to which I would call your especial attention:—

Since we last met, there has been organized, in New York,

an Ophthalmological Society, composed of many well-known oculists of our country. There is talent and experience among its members, sufficient to secure the annual publication of most valuable monographs, which cannot but awaken increased general interest in our profession in ophthalmic science.

During the past year, the general government has established and supported in Chicago, a large hospital for the treatment of soldiers affected with diseases of the eye and ear. This hospital secures for medical students most valuable opportunities for receiving clinical instruction, at the lectures of the surgeon in charge, Dr. J. S. HILDRETH.

The Chicago Charitable Eye and Ear Infirmary, No. 16 East Pearson St., continues with increased prosperity. The institution has come in possession of a commodious hospital building. Liberal contributions, principally from benevolent citizens of Chicago, have been made for its support. Since the opening of the Dispensary of the Infirmary, in 1858, more than two thousand two hundred poor patients have availed themselves of the treatment provided by the institution. The Infirmary has been incorporated by a special act of the General Assembly of the State of Illinois. The facilities for clinical instruction will be extended, as the growth of the institution may permit.

ARTICLE XIX.

HYPODERMIC INJECTIONS FOR THE OBLITERATION OF VARICOSE VEINS. A CLINICAL LECTURE.

BY E. ANDREWS, M.D., Prof. of Surgery in Chicago Medical College.

The question of the best method of obliterating varicose veins is still asked with great interest among practical men, because there is great discrepancy of opinion among the standard works on the subject.

The three methods of ligature, caustic, and hypodermic injection, are the ones between which we usually have to choose.

Of these, the ligature is doubtless the most dangerous. Owing to the irregularity of the veins, and their numerous branches, it is practically impossible to ligate extensively without occasionally transfixing some venous trunk or branch, and passing the needle and ligature through it instead of under it. This makes a fistulous channel at once from the external air to the interior of the vein, and indeed carries a small quantity of the air enclosed among the fibres of the ligature into the vessel, both of which circumstances favor decomposition, erysipelas, and pyæmic phlebitis. On this account occasional deaths follow the operation, and surgeons have a well-founded dread of it.

To avoid this, some prefer the use of caustic. Prof. GROSS advises that a mixture of equal parts of caustic potash and quicklime be made into a paste with alcohol, and applied in small spots over the veins, leaving it on from ten to twenty minutes, until an eschar is formed, reaching to the vein. GROSS thinks this course to be quite safe. It has the advantage of not laying the vein open to the air, and though ulcers formed by the fall of eschars may sometimes provoke erysipelas and pyæmia, as even a pin scratch may do in persons strongly predisposed to it, yet it is a rare occurrence, and the procedure must be reckoned as safe as any minor operation in surgery. The practical inconveniences of the method are the following: 1st. It often happens that some of the caustic patches fail to reach the vessel, and after weeks of delay a repetition of the process is necessary. 2d. The issues formed by the caustic require several weeks to heal. 3d. The caustic plan is not applicable to erectile tumors, especially those on the face and neck. It is most successful in common varicose veins of the legs.

The third method consists in the introduction of a solution of perchloride or persulphate of iron into the vessels by the means of a fine-pointed hypodermic syringe. To accomplish this, the limb is ligated as for venesection, in order to distend the vessels. The point of the syringe is inserted at various places, and at each spot three or four drops of the liquor ferri perchloridi, or of Mansol's solution of the persulphate are inserted.

the clots, and were effectually cured without a particle of suppuration.

CASE III. An infant, four days old. This child was born with an erectile tumor upon the back of the neck, which speedily grew to the size of an egg, and threatened to increase still more. It might, from its location, have been easily excised, but, from its depth and breadth of base, I feared more hemorrhage than would be safe in a new-born infant. I therefore inserted ten drops of mur. tinct. of iron with the hypodermic syringe, passing it through the tumor in various directions. This at once converted it into a hard, knobby mass, with most of the veins well obliterated. After a few weeks, however, some of the remoter corners of the tumor proved still vascular, and required two additional injections. The result of the repetition was to make a small abscess in the tumor which discharged, after which the whole mass shrivelled away to a small fleshy knob.

CASE IV. A young man, aged 18 years. He had several deep nævi involving in the tumors, the whole thickness of the left cheek, and part of one lip, and making a tumor 2½ inches long on the side of his neck. I inserted about twenty drops of the mur. tinct. of iron into each of these tumors, without any anæsthetic. They were converted at once into hard instead of soft swellings. Some inflammation followed, but no suppuration, and the masses began to shrink away, when the patient left for home, apparently cured.

I believe this method to be the best known for vascular tumors, and much safer than the ligature, in the common varicosities of the leg. It has promptness and certainty in its favor also. I do not believe that either this operation, or the use of the caustic, nor any other operation in surgery, however trivial, can be made perfectly safe from pyæmic phlebitis, if indiscriminately practiced upon patients in a decidedly aplastic and erysipelatous diathesis. When patients are in such a state of the general system, any scratch or pimple may give origin to fatal erysipelas or pyæmia.

But it should be borne in mind that this matter is very much

The blood at the place of insertion is instantly formed into a hard small clot. The vein contracts upon it and is from that moment obliterated. The puncture, being extremely minute, admits no air, and no fistula is established. The clot seems to be imprisoned by a plug of plastic lymph on either side of it, and is usually absorbed without any suppuration, leaving the patient cured. In erectile tumors this is by far the best of the three methods.

The following cases may serve to illustrate the subject:—

Case I. A woman, aged about 50 years. She had a large erectile tumor, of about three inches in diameter, upon the top of the head. It was arterial rather than venous, as was shown by its distinct pulsations. Part of the thickness of the skull was absorbed beneath it, giving an excavated feeling as the finger was pressed under the edge of the base. As it was rapidly growing, it became necessary to attend to it at all hazards. I first tied all the arterial trunks leading to it, but found that the collateral circulation still kept up the tumor. I therefore took a hypodermic syringe, and inserting its pipe in various directions in the tumor, left within it fifteen drops of the liquor ferri perchloridi. The result was an instantaneous knotty hardness wherever the solution was lodged. After a week, I began to fear that the first injection would not be sufficient, and as the patient began to be in great haste to return home, I made an effectual end of the disease by inserting about thirty drops more. The result of this haste in the treatment was to create a smart inflammation, followed by an abscess in the tumor, which discharged a mixture of pus and black clots, after which the whole mass shrivelled away and was cured.

Case II. A laborer, aged about 35 years, troubled with varicose veins, and an ulcer on the right leg. In this instance I determined to test both the caustic and the injections. I therefore applied the caustic over part of the veins, and inserted the perchloride of iron in solution into the others. The caustic was left on twenty minutes, and was measurably successful in places, but in certain portions failed to obliterate the vessels. The veins which were treated by the syringe, shrunk at once upon

under our control. If the patients have their constitutions well prepared beforehand, by keeping them in a current of perfectly pure out-door air for a few days, both night and day, and by giving freely the tincture of iron, and if the same management be kept up during the cure, erysipelas and pyæmia will be almost an unknown accident. But, if they sleep in crowded houses, or in small rooms with closed windows, from the fear of colds, then these surgical scourges will occasionally take their victims from every class of injuries and operations, and no skill can wholly avert the consequences of the folly in breathing impure air.

ARTICLE XX.

EPIDEMIC ERYSIPELATOUS FEVER AT WAVERLY, ILL. Read to the Meeting of the Illinois State Medical Society, May, 1865.

By R. E. McVEY, M.D., of Waverly, Ill.

Mr. President and Gentlemen:—The paper which I shall read to you, is a brief history of an epidemic of erysipelatous fever, which occurred in and about the vicinity of Waverly, which is located near the central part of the State.

The topography of the country is high, rolling prairie, with a fine loamy soil, slightly mixed with sand; and occasional streams to drain the country sufficiently; with timber on the North and West to break the great north-western winds. The water used for domestic purposes, is obtained from wells, at the bottom of which are found a continuous bed of slate and sandstone, mixed with occasional streaks of stone coal.

The country is all in a high state of cultivation, and apparently there is no more cause for epidemics there, than in any other portion of the country. But during the winter of 1864, we had an epidemic of cerebro-spinal meningitis, which proved very intractable; and through the summer we were troubled with an epidemic of scarlatina; and when cold weather made its

appearance, erysipelatous fever, which has far exceeded in fatality even cholera itself.

The cause of the epidemic seems to be obscure, but is supposed to be some atmospheric admixture, which is wholly unaccountable, so far as I know. The weather was dry and cold, mercury ranging from 32° above to 10° below 0; and no rain, scarcely, has fallen since November last, 1864, until March, 1865, making, upon the whole, a winter of the most uniform temperature, dry and pleasant, I have seen for many years, not varying from one extreme to the other, as is usually the case.

I am aware that the cause is said to be the result of the decomposition of animal and vegetable matters, the poison finding its way into the lungs with atmospheric air, or some other avenue. But it is impossible to say, for the reason that cold has the property of condensing vapors and confining them to the surface of the earth, therefore it would seem impossible for epidemics to originate from such a cause during protracted cold weather, which was the case last winter, however, it might be said that the toxic agent found its way into the system previous to the cold weather, and remained latent, and the depressing effect of the cold had something to do in developing and manifesting the disease. It is true that many features of the disease under consideration were characteristic of diseases arising from such a cause.

The symptoms were nearly the same as those of bilious fever; it resembles it in duration, and in its general tendencies; and, while I entertain such an opinion, I know that many good practitioners of medicine, diagnosed it to be typhoid in character, erysipelas, or erysipelas with a typhoid complication, so to speak. But when we contrast the disease in question with typhoid, we find they differ widely in symptoms, duration, and final results. It is claimed that the disease, like bilious, runs into typhoid after the seventh day, and especially if it runs on to the thirteenth or twentieth, but the same gentlemen would be rather slow to believe that typhoid runs into bilious. And why not, if both diseases are produced from the same

cause? The typhoid symptoms are as likely to be primary as secondary, and if bilious fever is disposed to run into typhoid, typhoid as surely runs into bilious.

Public opinion gives the physician no credit who treats a case that runs from fifteen to twenty days, unless he calls it typhoid. This is wrong. The physician who treats bilious fever, and does it successfully, is as much entitled to credit as though he treated typhoid. In typhoid fever, without entering into detail in regard to symptoms, the secretions are all increased; there is the pea-soup diarrhœa; the copious perspiration, and sudamina; the pulse is but little accelerated; the muscles become relaxed; the constitution of the blood is impaired, and the general tendencies of the system are to wasting and softening, which is evidenced after death by handling the liver, which is found to be easily torn; the muscles are softened; the bowels are ulcerated. Not so with the disease under consideration, the secretions are all locked up; the hearts actions are increased, at times so as to send the blood through the system without the proper secretion being made, therefore they are retained; the action of the skin, kidneys, liver, and bowels, are diminished, while the action of the lungs are increased, they having to throw off all the effete matter, in the shape of carbonic acid and water, in order to carry on respiration, and supply the system with oxygen. But then vicarious action does not suffice but in part, they cannot fully perform the functions of the kidneys and liver, the bile is retained, and, after a few days, unless proper remedies are used, the patient becomes jaundiced. If the constituents of the urine are retained any considerable length of time, coma is the result, and the general tendencies are to induration, inflammation, and suppuration, the disease running from seven to twenty-eight days. Unlike bilious fever, inflammation is apt to set in early about the tonsils, pleura, peritoneum, and external muscles of the neck or face; while in bilious fever, it makes its appearance, ordinarily, in the last stage of the disease, and is principally confined to the liver and spleen, and, sometimes, the meninges of the brain. But, during the epidemic of erysipelatous

fever, there was no part exempt. In some of the cases which I treated at the start, it was confined to the skin, but frequently it would dip down into the cellular tissues, and, occasionally, into the muscles themselves, forming large suppurating abscesses; and the symptoms were more favorable when it located itself, than when it did not. When it made its appearance upon a part, and spent its violence there, it mitigated the constitutional symptoms, lessening the danger of breaking down the constitution of the blood, which was inevitable, if it did not locate somewhere; when it did not, the chances were against the patient. But the question may be asked, how we would know that we had erysipelatous fever, unless it was located? The answer is easy:—by the quick pulse, and wandering condition of the mind at night. I have frequently found the pulse 130 per minute, with high delirium, at night, and in the morning find the pulse not above 100 per minute, and the mind clear, and the patient flattering herself that she was, in a manner, well—for the women seemed most liable to be attacked, though no age, sex, or condition of life was exempt. I treated it in the new-born infant, to extreme old age, both male and female, but when night came around, the quick pulse and the delirium returned, prostrating the patient in a fearful manner, which is peculiar to no other disease. Sometimes patients died of nervous prostration, within 48 hours after the attack, but more usually the disease came on with chilly sensations, lassitude, pain in the head, back, and limbs, the appetite was impaired, with indisposition to exertion, this state of things continuing from 24 to 36 hours, when the patient would be seized with a severe chill, intense thirst, nausea and vomiting, with restlessness, and a great sense of muscular prostration. The tongue was usually dry and coated; skin hot; pulse strong and frequent; urine sweet and high colored; and, as the disease progressed, the system became more and more exhausted, until the disease found a location, or broke down the constitution of the blood, and resulted in death.

The next question arises, does erysipelas ever attack the internal organs? My opinion is, that it does, when prevailing

epidemically, and I will here give a few cases as evidence without arguing the point:—

Case I. Was that of a lady, about 30 years of age, who was seized with a chill, which was soon followed with high febrile excitement, with nausea and vomiting. The nausea and vomiting was very intractable, having all the appearances of gastritis, which continued for about four days, when the stomach was suddenly relieved, and there was pleuritis of the right side for about two days, when the throat became suddenly involved, the diesase passing to the parotid gland, and spreading over the entire face and part of the scalp.

Case II. Was that of a young girl, in her seventh year, who was indisposed for a day or two, when she was attacked with shivering and severe rigors, alternating with flushes of heat. Next day there was tenderness over the umbilical region, and tympanites, which remained about four days, and had all the characteristics of peritonitis, when the patient was seized with nausea and vomiting. I examined the abdomen and found the tenderness had subsided. During the next 24 hours the nausea and vomiting had ceased, and the cervical muscles were swollen and tender, and the disease soon made its appearance upon the face and scalp.

Case III. Was that of a woman, about 35 years of age, who was taken, apparently, with pleuritis of a very violent character. There was no cough or expectoration, but the pain was severe, with great tenderness along the side of the chest, with high febrile excitement, great thirst, and a wandering condition of the mind at night. Therefore, I decided it to be erysipelas. About the seventh day, when I had given up all hope, the inflammation passed up into the throat, and from there to the face, and the patient speedily recovered.

But such happy results were not always to be looked for. When the disease attacked the peritoneum, mucous membrane of the stomach, pleura, or meninges of the brain, it was apt to remain there until the parts were destroyed, and death was the result. The inflammation had a strong tendency to suppuration, in the majority of the cases I treated of the erratic form

of the disease; abscesses would form about the angle of the jaw, and sometimes the tonsils had to be opened, being the seat of large abscesses. One patient, that died of peritonitis, I bled two days before death, but discovered nothing except that the blood was sizy and buffed, consisting of a large amount of serum and a small clot.

The disease did not seem to be contagious, but usually went through families. There were several cases that were thought to be produced by inoculation. In regard to treatment, the most successful was alteratives, tonics, stimulants, and anodynes. Local applications, in general, were nothing more than placebos. At the commencement of the disease calomel and jalap, and Dover's powder were given, to clear the intestinal tube, and were followed with tonics, after the bowels had been thoroughly evacuated. Quinine and the tincture of chloride of iron, was the tonic I preferred, administered during the day with wine or brandy for a stimulant. The chlorate of potassa was used freely, for its solution in the blood, to facilitate the absorption of oxygen into the system, which is so much demanded where there is much nervous prostration. After the disease has progressed two or three days, tartar emetic is an invaluable remedy, given in about half grain doses, just enough to produce emesis, it relaxes the system, and establishes all the secretions, better than even calomel itself, and there is no danger of ptyalism, which is much to be dreaded, and, especially, if there is a tendency of the disease to the throat; it overcomes the action of the heart, mitigating the force of the circulation, giving the kidneys time to perform their proper function; it arouses the bile cells in the liver to action, causing large quantities of bilious matter to be evacuated, especially where there is a bilious complication, which is apt to be the case either primary or secondary, but in the majority of cases it is primary—that is one of the first things that demands our attention. During the night, morphia enough to calm the restlessness and produce sleep is sufficient, more than that seeming to have a deleterious effect, rather than otherwise, locking up the secretions of the kidneys and liver after they have been

established, counteracting, to some extent, the effect of the alterative part of the treatment, which is the main dependence to be relied upon for the cure and restoration of the patient to health. As an alterative, the syrup of iodide of iron was made use of, but its action seemed to be too slow, or did not seem to control the disease as well as the tincture of chloride of iron combined with the sulphate of quinine. But I do not think it safe to depend upon the tincture of iron alone in the treatment of erysipelas while prevailing epidemically, and especially where there is a bilious complication, notwithstanding it has been lauded as the best remedy, and I have no doubt but it is an efficient remedy enough in the idiopathic form of the disease, but when there is a marked periodicity about the disease, I would prefer it combined with sulphate of quinine, as above stated. The sulphate of quinine being, in my opinion, an indispensable remedy as a tonic, and anti-periodic, and about the only trustworthy antidote to the poison of the zymotic or morbific agent that originates the disease, by fermentation, or otherwise, it should be omitted during the night, when the delirium is high, but through the day it can be given with impunity. The local use of the tincture of iodine, in the erratic form of the disease, has been highly recommended by physicians both in Europe and in the United States. But, after a faithful trial, it did not come up to my expectations. However, in one or two cases it seemed to do good in arresting the progress of the disease, yet it was impossible to say whether the iodine arrested it or the constitutional treatment, for I never trusted it alone but in one case, and that was a young infant, about two weeks old, that could not take a constitutional treatment.

The disease first made its appearance in the vagina, and over the perineum, and followed the inguinal region to the abdomen, which it entirely covered. The tincture of iodine was painted over the parts, first in a diluted form, and lastly in full strength, but did not arrest the disease, and there was no constitutional disturbance at the start, apparently, of any consequence. In the majority of the cases, where the face was attacked, the disease disappeared as soon without its use as with it, depending

entirely upon the constitutional treatment and the length of time after the attack before it located itself upon the face.

ARTICLE XXI.

NECROSIS AS AN EFFECT OF ERYSIPELAS.

By E. ANDREWS, M.D., Prof. of Surgery in Chicago Medical College.

The military amputations presented by returning soldiers display a remarkable number of cases of necrosis of the bones of the stump, and in almost every instance it is found that the patient had erysipelas soon after the amputation. The fact that the poison of erysipelas exerts a very destructive influence upon osseous tissue is a matter of daily observation by surgeons, but the phenomena of the military cases referred to are more curious and interesting than usual.

Case I. Col. McG——, of an Ohio regiment. He was shot in five places, in a hand-to-hand fight, shattering one arm and fore-arm frightfully. The arm was amputated at the middle, and the operation was followed by erysipelas. The erysipelas having subsided, he waited many months and then presented himself with a fistula in the end of the stump, in which the probe readily discovered a sequestrum. After anæsthetizing the patient, I proceeded to remove the fragment, which I determined to do without re-amputating. On making an incision into the end of the stump, it was found that the whole thickness of the humerus was dead, but that the periostum had produced a new shell of bone around it, and, between the two, a probe easily ran up four inches. The sequestrum was loose, but still held by irregularities of its surface, so that it could not be withdrawn. With a strong scalpel, I laid open longitudinally the soft shell of new bone, cutting it on two sides. With a little force, I then spread these two valves, so as to liberate the sequestrum between them and allow it to be drawn out. The valves were then brought together and dressed, and the cure perfected without shortening the stump in the least. The

sequestrum was about four inches in length, and tubular in form. When it was withdrawn, the medullary substance proved to be living, and remained in the wound attached by its superior extremity. The endosteum had produced no shell of bone like the periosteum, but there were numerous osseous spiculæ in the substance of the medulla.

Case II. A soldier of the 1st Ill. Light Artillery, was shot in the arm at Vicksburg, and suffered amputation in the middle of the humerus. After the operation he had erysipelas. Some months later, I examined and found a fistula and sequestrum. I operated in the same manner as in Case I., and found the condition of things exactly a repetition of that case in all particulars. The patient recovered without difficulty.

Case III. Was like Case II., an amputation of the arm followed by erysipelas, The sequestrum, however, was only an inch long, and was removed by a slight operation.

Case IV. Was an amputation above the middle of the arm, followed by erysipelas and necrosis. In this case, the necrosis involved the whole stump of the humerus, quite up to the shoulder-joint. It being presented to me for counsel, I found the patient extremely anxious to preserve the semblance of a stump, even if it was of no practical use. I therefore advised that the bone be removed by resection, saving as much periosteum as possible. This was done, and a good recovery ensued. I do not know to what extent the bone was renewed, as the patient removed to a distance.

Case V. Was shot through the upper-third of the humerus, and had erysipelas soon after. The limb was not amputated. The fracture united well, but caries ensued, involving the shoulder-joint, and accompanied with a bony anchylosis. In this instance I resected the shoulder, after which the patient recovered as usual.

Case VI. Was a gunshot through the ankle, for which the leg was amputated three inches above the ankle. He came to me after some months with a fistula in the end of the stump, and had observed several fragments of bone to pass out. On examination, the bone was found very much thickened and

indurated, with a small sequestrum in its very centre, and about six inches above the extremity. Finding that it could not be extracted satisfactorily, I was forced to make a new amputation in the upper-third of the leg. The patient recovered rapidly.

These cases show very clearly that it is seldom necessary to amputate a stump, on account of necrosis of the bone within it. It suffices, generally, to lay open the part and remove the sequestrum, when a good recovery will ensue. They illustrate, also, the destructive effect of the erysipelatous poison upon injured bones, and the consequent folly of hurrying wounded soldiers from the tents of the field of battle, where erysipelas is rarely seen, into large hospitals, where it is a constant attendant, and exerts its fullest and deadliest effect.

ARTICLE XXII.

PATENTS FOR SURGICAL INSTRUMENTS.

Mr. Editor:—It seems to me that it is time for the profession to take measures to stamp with its strong disapprobation the practice of members of our fraternity taking out patents for surgical instruments. I see in the Transactions of the National Association, and of the New York State Medical Society, articles accepted and published from two men who have been notoriously guilty of disregarding the professional etiquette in regard to this matter—men who accept and use all the discoveries of the rest of the profession, which have been given them free and without cost, and then having devised something themselves, they, with a meanness which is despicable, refuse to reciprocate, but declare that no professional brother shall be allowed to make use of their inventions without paying them for the patent right. This pernicious example is being followed, to some extent, even at the West.

These men ask, Why should not a surgeon be protected in his inventions, as well as a mechanic? Perhaps a few remarks

on this subject may serve to set the matter in a clearer light in the minds of those who ask the question.

Abstractly speaking, there is no immorality in a physician or a surgeon owning a patent, but practically there is an inexpediency in it. For, in the first place, it is unseemly. The physician and surgeon have to deal with human life, and the sacredness of that interest is such, that the whole profession, and the whole world, have agreed in the sentiment that the attempt to limit the use of any life-saving discovery is barbarous. It is something as though some clergyman should try to patent, for his own benefit, any plan capable of promoting the moral and religious welfare of mankind. Moved by this feeling, the profession, the world over, have worked with all their genius and energy, to make medical and surgical improvements, and each man has magnanimously thrown his results into the common free stock. Now the attitude of any surgeon who patents an instrument, is this:—He has received, free of cost, the right to use all the medicines and instruments which have been devised by the profession in the whole world; he uses them daily; if he is, in the least degree, an intelligent man, he practices all the while on ideas furnished him, without charge, by his brethren in all parts of the world; and then, accepting all these, he ungratefully refuses to reciprocate the courtesy, but patents his own petty devices, hoping to profit somewhat by preventing those who have furnished him all these advantages from receiving anything in return. It is fair to say that this is unmitigated meanness, and it is perfectly proper to exclude such men from the benefits of professional fellowship, since they despise its established courtesies.

There is another sting to their selfishness. Surgeons generally derive a majority of their business from the courtesy of other practitioners, who refer surgical cases to them. This is especially true of orthopedic surgeons, who are the chief sinners in the matter of patents. Now, to use all the discoveries of others free, to receive half their income from patients sent to them by the profession, and then to refuse the small quota of their own inventions to the very men who feed them, is con-

temptible. If there were any very great advantages to be gained by the patent, the meanness would be more excusable; but a patent surgical instrument scarcely ever pays the cost of production to a practitioner. The only way for a man to make such a thing pay, is to abandon his practice and take up the trade of instrument maker. He will then no longer be a surgeon, but a mechanic, and, as such, at liberty to patent his devices. The real way for a surgeon to make money, is to throw his improvements freely and magnanimously before the world for use, and reap the reputation which is so readily given to those who make valuable discoveries. This reputation always draws in tenfold more profit, by the increase of his business, than can ever be pinched out of the community by means of patent rights. I hope the National Association will take this matter up and bring the weight of its influence to prevent the further degradation of American Surgery in this respect. X.

Selections.

CLINICAL LECTURES ON SCRIVENERS' PALSY.

DELIVERED AT ST. THOMAS' HOSPITAL.

By SAMUEL SOLLY, Esq., F.R.S., Senior Surgeon to the Hospital.

LECTURE II.

Gentlemen:—Again returning to the subject of scriveners' palsy, I will relate another case, as it illustrates the main characteristics of the disease very forcibly, and also shows that the malady is more easily cured when detected early.

Mr. Q——, aged twenty-five, single. Parents are alive and healthy, and, on his father's side, very long-lived; he has a grandmother aged ninety-two. His habits have always been regular and steady, taking beer with his meals, but not spirits. He smokes very little now, and did not smoke at all when he was first attacked. He has been engaged in mercantile business since he was fourteen years of age, but previously to going into the —— Bank (which he did about five years ago), he was

in a large wholesale house. In this house he had less writing, and more active exercise. After he had been in the service of the bank about a year, he complained of an uncomfortable sensation in the upper arm of the right side, but not at first in the hand and fingers. This discomfort was succeeded by violent trembling in the muscles and tendons of the hand and arm, accompanied by a sensation of extreme fatigue in the limb, as if he had been using some violent physical exertion, rendering the arm and hand completely numbed. This numbness was so complete that he could pinch and prick the fingers without feeling anything. At last it became so bad that he could not hold his pen. When these symptoms first commenced they would all retire at night, and, with rest and sleep, he would feel pretty well in the morning; but ere long even this relief was denied him, and he commenced business in the morning with some discomfort. When, at last, the handwriting became so bad that he was ashamed of it, he sought my advice.

I recommended a complete change of air and scene, which, through the great kindness of those who claimed his services, he was enabled to effect. After the lapse of two months away from his writing occupation, during which time he was benefiting by the bracing sea air and bathing at Brighton, he almost entirely recovered. Since that time (beyond an occasional return of the symptoms in a mild degree, after using the pen without cessation for any lengthened period) he has not experienced sufficient inconvenience to lead him to fear a return of the disease. He has not so much writing to do now as formerly, and writes an excellent hand without difficulty.

The next case does not tell much for our medical treatment of such cases, though it shows that with rest they will recover. I have no doubt that the pen he speaks of was of service, but I do not believe that it would have effected a cure if it had been alone employed in the first instance. Coming after the rest, the pen was certainly of use. This patient shall tell his own story in his own words, which are:—

"I entered the service of the —— Bank in November, 1859. About the middle of 1860, I began to experience an involuntary pressure of my thumb upon the pen while writing, which increased until it was so violent as to be very painful, and I was compelled to hold the pen with my fingers, without using the thumb. The thumb then doubled itself into the palm of the hand causing much pain. These sensations were experienced only while writing, or when holding any article between the finger and the top joint of the thumb. At this time I was at

——, in Essex, and sought the advice of a surgeon, who gave me a liniment; but this not proving efficacious, I went to another, who also gave a liniment, and advised me to hold my arm under a stream of cold water, and have it rubbed with the hand in a brisk manner. This was done twice a day for some time. In November, I was removed to the head office, and I cannot remember whether it was before or after this that my thumb so far improved that I could hold the pen with my fingers without the contraction of the thumb upon the palm before complained of.

"On 21st Feb. 1860, I sought your advice in the matter, when you advised me to write as little as possible, and gave me a prescription (this was the third of a grain of strychnine), stating my case to be an attack of the scriveners' palsy, in a slight degree. On the 25th, you increased the dose (to the sixteenth of a grain), and directed me to leave off writing for a fortnight. This medicine caused twitchings of the muscles of the face, and on April 5th, you gave me another prescription (the twelfth of a grain of the bichloride of mercury). On the 16th of April, you advised me to try galvanism, and, by the kindness of Mr. Wood, of Cheapside, I was allowed to go to his shop and have the use of one of his instruments for a fortnight to try its effect. At first it appeared beneficial, but the effect was not permanent.

"During this time I had been writing with my left hand, but I began to feel an unpleasant sensation in my left arm, and you advised me that I must discontinue it.

"On May 9th, you gave me small doses of colchicum, and on the 28th, tincture of iron. The latter, however, I did not use, as I left the bank on the 31st, and went to my home in the country.

"In July, I started on a voyage to the Canary Islands, the journey out and home occupying six weeks. This did not appear to produce any especial good at the time, but I think it had a beneficial effect upon my general health.

"I re-entered the service of the bank in September, taking a post requiring but little writing; and in the same month I attended an orthopædic hospital, and was seen by Mr. —— and Mr. ——. One of these thought the extensors were withered, but the other differed from him. I was put under the care of Mr. ——, and various trials were made of a spring fixed on a glove, intending to prevent the thumb from contracting. But no success attended these efforts, and in Jan., 1862, I ceased my attendance.

"In February, I purchased Perry's 'Orthodactylic' pen-

holder, the peculiarity of which consists in three small plates affixed to the holder in the places where the thumb and fingers should rest. About this time my thumb rapidly improved, and in March I was able, partially, to resume my duties at the books. In April, 1863, I re-entered upon full duty at the desk, since which time I have experienced no inconvenience from the usual labors of the office. (He now writes an admirable hand.)

"A medical gentleman suggested to one of the clerks that the disease might, perhaps, be caused by the contact of the thumb with the steel pens which are used in the office (Mitchell's barrel pens); and since then I have used a quill over the barrel of the pen as a protection, and others of the clerks tell me they have derived benefit by doing the same.

"*Note.*—My habits have always been quiet and regular; no smoker; a teetotaler. In youth I grew fast, and was not of very robust health, though not subject to very severe illness. My father was afflicted with nervousness; mother healthy.

"C. W——, Dec. 14th, 1864."

Very little has been published on the pathology of this disease in the English language. Virchow,* in his handbook of special pathology and therapeutics, has an article upon it; but this, unfortunately, throws no light upon the treatment of this formidable disease. He confirms my opinion that the act of writing is dependent on the co-ordination of several muscles; saying, "Notwithstanding the combinations necessary for this purpose become, by degrees, so habitual that a conscious separation of the single acts is not possible to the mind, it appears as if the rythm of it, as it is learnt with difficulty, yet it in no way approaches the proper automatic movements—such as breathing, &c. Writing requires always a constant attention, which becomes more or less mechanical." This author also refers to an irritability of the upper dorsal region of the spine, sometimes induced by over-practising on the pianoforte, as indicated by pain in that region, and morbid contractions of the fingers. I have seen such cases, and may mention, as a digression from our consideration of its pathology, that I always prescribe nervine tonics, and rest from that kind of action of the muscles—but not entire rest of the limb; active exercise in the open air, with a hoop where it is possible, and calisthenic exercises of all kinds.

This aching in the spine may also be observed in connection with scriveners' palsy; and the fact is important, as I shall explain further on. Very little consideration of the subject of

* Virchow: Handbuch der Speciellen Pathologie und Therapie, vol. iv., p. 143.

scriveners' palsy is needed to convince us that the disease is not a simple paralysis of muscular power. The patient can call all his muscles into action; but he cannot bring them all into such *harmonious* action as to be able to write. What is the reason of this? I must not, even in a clinical lecture, take it for granted that you are all well up in the physiology of the brain and spinal cord, and I am sure I need not ask forgiveness of those who are, if I go a little into the A B C of the matter.

The physiological and pathological explanation of this disease is not given by Virchow. It must be sought in the newest discovered mines of nervous lore. I believe that I was one of the first to insist upon the distinct office of the cineritious and medullary neurine, and I felt that this was the more necessary, inasmuch as Gall and Spurzheim, those grand pioneers in nervine anatomy and physiology, omitted to adopt this view. They merely spoke of the cineritious neurine as the womb or producer of the white, not, as is now universally acknowledged, the real and sole source of power. Much has been discovered lately in regard to the physiological action of this grey neurine—the vesicular portion of the nervous system, and its relation to the tubular, especially as regards the spinal cord. The spinal cord, as I suppose most of you know by this time, is not merely a large nerve or large bundle of nerves—in other words, it is not merely a conducting instrument. It consists of the two kinds of neurine, the tubular or conducting neurine, and the vesicular or dynamic neurine; the white or tubular neurine, the grey or vesicular neurine. I remember when Marshall Hall first enunciated his views and discoveries regarding the especial power of the spinal cord in the production of what he called its excito-motory power, I said, "Well, if you are right, the instrument of that power is the grey matter of the cord." To which he replied, "I know not at all what is the instrument of that power, or in what part of the cord it is developed; I only know of its existence, and that I have proved." Since then the grey matter has been proved to have that function, but it has also been proved to have another distinct from it. It is this power and the machinery of it, so to say, that you must understand, if you do not do so at present, before you can understand what I believe to be the physiology and pathology of scriveners' palsy.

Ever since the days of Hippocrates, it has been known that if the fibres of the brain are torn through by an irruption of blood into their substance, the communication by which the will flows to the muscles is cut off, and the muscles supplied by such

fibres are paralyzed. Until a very late period it was supposed that the cerebrum and the tubular fibres of the spinal cord were the only instruments concerned in producing the action of muscles. Latterly, however, the physiologist has felt convinced that there must be some additional instrument concerned in the transaction; some instrument for co-ordinating or combining the action of muscles. The cerebellum has now, by almost universal accord, a portion of this power attributed to it. Schroeder Van der Kolk does not consider that all the credit is due to the cerebellum, but that the vesicles of the cord also have their share in it. I confess that I think so too. The exact proportion in which this power of co-ordinating muscular action is possessed by these centres, I suppose no one will at present pretend to decide. I expect that morbid anatomy, unveiled by the microscope, will clear up a great deal that is yet obscure. Romberg, who gives a short notice of writers' cramp in his work,* mentions a fact which shows that it may take its origin in the cerebellum:—"Paralysis of the upper extremity, dependent on a cerebral or spinal affection, frequently commences with impaired power of conduction in the motor nerves of the fingers, and consequent difficulty of writing. A man was under my care, whose disease lay in the cerebellum, and made its *debut* with an impairment in writing." It will only be by the accumulation of such facts that the mystery will be unveiled.

In the present state of our knowledge of the symptoms which attend scriveners' palsy, I think we are justified in believing that the disease commences in the cord. We find that most of the patients have felt some uneasiness in the lower part of the cervical region, and in the upper part of the dorsal. There is seldom any complaint of discomfort in the head, either in the occipital region (the seat of the cerebellum), or in the frontal. Still it must be allowed that the whole question of its pathology is very much in the dark, though I hope before long a *post mortem* examination may help us out of our dilemma. Without, therefore, now attempting to decide whether the nervous power which co-ordinates the muscles of the writer resides in the cerebellum, or in the spinal cord—though I am inclined to favor the latter hypothesis—we will consider the nervine arrangement by which it is in all probability produced; and though I shall describe it as existing in the spinal cord, still there is no reason to doubt that to a certain extent the same physical arrangement exists in both dynamic centres.

* A Manual of the Nervous Diseases of Man. By M. H. Romberg, M.D. Translated by Dr. Sieveking, for the Sydenham Society, vol. i., p. 321.

Lockhart Clarke and Schroeder Van der Kolk were, I believe, the first to explain clearly the nervous mechanism, if I may so express it, by which a group of muscles are made to act in such unison that complicated actions are produced in perfect harmony. The first-named gentleman originally demonstrated the actual connection of the nerve-tubules with the nerve-vesicles. Schroeder Van der Kolk followed it up and reasoned upon it.

We are so accustomed to see all muscular actions harmonious, that we neglect to consider the means by which this result is obtained. Let us consider the act of volition, and how it is carried out. I will state the matter briefly and dogmatically. Will springs from the action of the hemispherical ganglion, or cortical substance of the hemispheres of the brain. It descends along the white fibres of the hemisphere through the corpus striatum, crura cerebri, pons Varolii, and medulla oblongata, where it crosses from one side to the other, and then descends in the cord to the vesicular neurine in the interior of the medulla spinalis. Now I must have recourse to a diagram on the black board. You will see by this diagram that I represent a nerve-fibre (*a*) coming down from the brain, joining the nucleated vesicles (*b*), those ministers of power in the substance of the cord, the cineritious neurine. I think it right to repeat these terms frequently, in order that they may be household-words, engraved on the tablet of your memory. From these vesicles you see other and more numerous nerve-tubules (*c*) arising; these go to all the numerous flexors and extensors of the hand, which produce the act of writing. If the nerve-tube (*a*) went directly from the cord to the muscles of the hand, those muscles would act, but they would act spasmodically, not harmoniously. The instrument then which produces all this harmony, which co-ordinates the muscular action necessary to writing, whether good or bad, are the nucleated vesicles marked *b*. It is no sound argument against this theory that the act of writing does not come by instinct like the acts of the lower animals, but that the child has to learn to write—in other words, that these vesicles have to learn their co-ordinating duties. Is it not so with the brain itself? The child cannot reason and think accurately as soon as it is born. The ganglionic cells of the hemispherical ganglia have to be educated just as much as any other part of our living mechanism.

The observations of Schroeder Van der Kolk, to which I have referred, are given by him in the work published by the Sydenham Society, and translated by Wm. Davis Moore, Esq.,

M.B.* As I hope you will all take the first opportunity of reading this admirable treatise, I shall not give the author's words at length.

The main point on which you should have a clear idea is this: That the nerve-fibres which you trace with your dissecting knives into a muscle or group of muscles, do not spring directly from the brain, or run without interruption from it. These nerve-fibres spring from "a group of mutually connected ganglionic cells, which cells receive the impressions of our will along the anterior white columns." These impressions or stimulations being thus distributed uniformly over all the cells of a group, produce in all the motor filaments of a nerve arising from this group a uniform and simultaneous action.

The number of these anterior conducting filaments of volition must thus be proportional to the number of the group of cells, and the several combinations of which they are capable. The greater size of the anterior grey cornua in the cervical and lumbar enlargements of the spinal cord are accounted for by this fact.

If we accept this view of Schroeder Van der Kolk of the anatomy and physiology of the spinal cord, confirmed as it is by the earlier and later descriptions of Lockhart Clarke, we are, I think, justified in believing that the writers' palsy must depend upon the disturbance or actual disease of these spinal cells. I must not, however, enter upon this part of the subject in this lecture, but reserve it for my next.

LECTURE III.

GENTLEMEN:—Trusting that you have not forgotten what I told you in my last lecture, regarding the anatomy of the spinal cord, its groups of cells and nerves connected therewith, I will now endeavor to prove to you that these cells are frequently diseased, and that upon such disease, in all probability, the scriveners' palsy depends. Scriveners' palsy is not, so far as we know, a fatal disease; patients do not die from it, but they may die with it, and as we have not yet any recorded case of a *post mortem* after scriveners' palsy, I want you to look out for it. Nevertheless, it has been proved that these ganglionic cells are liable to disease—a disease which in its early stages cannot be recognized by the naked eye. The microscope must aid us. Thin sections of a healthy cord show all the beautiful anatomy, which my old pupil, Lockhart Clarke, has so per-

* Professor S. Van der Kolk on the Minute Structure of the Spinal Cord and Medulla, &c., p. 81.

fectly elucidated, that the Royal Society have awarded him the Royal Medal. In health, the microscope shows the vesicles plump and transparent, with a distinct nucleus and nucleolus. In disease, the microscope shows the vesicles no longer transparent, but more or less filled with granular matter, and the nucleus more or less obliterated. In Beale's "Archives," No. XIII, vol. iv., p. 41, you will find from the pen of Mr. Lockhart Clarke, an admirable account of this granular degeneration. Again let me repeat that this description does not apply to a case of scriveners' palsy, and you will, therefore, please to understand distinctly that the account I am going to give you of granular degeneration and granular disintegration of vesicular neurine, as described by Lockhart Clarke, does not apply, at the present time, to scriveners' palsy. If, however, it should hereafter be proved that I am right in my theory, then also will be proved that granular degeneration, in its early stage, may be arrested, and that fresh and healthy cells are reproduced, if these cells are left completely at rest to perfect the reproduction of the cell-structure, and not interfered with during the reproductive action, by attempts on the part of the patient to use the damaged centre of nervous power—in other words, by resting entirely the group of muscles which are called into co-ordinate action by such centres.

The first case in which Mr. Lockhart Clarke made this discovery of granular degeneration of nervous tissue in connection with paralysis, is described in vol. iii. of Beale's "Archives," beginning page 1. The whole paper ought to be, if it has not already been, perused by every practitioner of medicine and surgery. I referred to the facts in my lectures at the College of Surgeons the year before last, and I was surprised to find how many of that learned body of men were unacquainted with the discovery which had been made. It is entitled "An Important Case of Muscular Atrophy, accompanied with Disease of the Spinal Cord." I do not think we shall often see this title again. It implies that the muscular atrophy was the disease, and the condition of the spinal cord the accompaniment; whereas, the disease of the cord was the primary malady, and the muscular atrophy the necessary and invariable consequence of long-continued disease of its co-ordinating centre.

The only grounds upon which pathologists could base the idea of muscular atrophy consequent upon paralysis without disease of the spinal cord has been cut from under their feet by this discovery. Hundreds of such cases have been examined, and reported to be free from disease because the disease

was not patent to the naked eye. There is no longer any excuse for such nonsense. No *post mortem* examination of the spinal cord can be considered as conclusive, unless it is examined in thin slices under the microscope.

The important features of the case, and those which appear to me at all to bear upon the pathology of scriveners' palsy are these:—The patient was sixty-five years of age, leading a sedentary life, engaged in literary occupations. "In the end of 1855 he began to complain of neuralgic pains in the balls of the thumbs of both hands, which before long extended to the fore-arms and arms. After some months he was conscious of marked weakness in the hands more especially in the right, soon followed by perceptible diminution of size in the muscles of the thumbs and index fingers, which also became bent inwards and towards the palms, as an habitual posture. All this time, while his general health was good and his body corpulent, he made great complaints of severe neuralgic pains shooting down his arms into the hands and thumbs, and also of weakness of the back.------Nothing abnormal could be detected in the organs of the chest or abdomen. The kidneys and bowels acted regularly, and apparently naturally; he had no tenderness of the spine, no headache, and his mind, when not turned on his own condition, was clear and rational."

The further history of Dr. P.'s case, up to the time of his death, in January, 1861, (the disease lasted, therefore, a little over five years,) "which was preceded for a few days, and possibly caused, by an attack of acute laryngitis, is nothing more than a detail of the gradual increase in the intensity of the symptoms already noted, and the extension of the pains to the lower limbs and feet, where the sensation of intense heat and burning was constantly complained of, aggravated by the act of walking."

I shall not attempt to give you the detailed account by Mr. Lockhart Clarke of the *post mortem* appearances, but such a very brief abstract as will suffice for my present purpose. There was no disease of the pons Varolii or cerebellum. In a transverse section of the spinal cord, at the origin of the fourth pair of cervical nerves, three lesional spaces might be seen; and this diagram will explain their position. You will recognize the shape of the spinal cord, as shown in a transverse section, and the shape of the grey or vesicular neurine in its centre, like two irregular-shaped letters C placed back to back. The three white spots you see in the grey mass on the left hand are lesional spots, or spots of granular degeneration.

The next case in which Mr. Lockhart Clarke gives us the result of his inquiries, was clearly not a case of scriveners' palsy, but extremely interesting in every point of view. The case is most ably related by Dr. Thudichum, in the fourth volume of Beale's "Archives," page 26, and the brief abstract which I now mean to give you must not prevent your reading the whole account with care and attention.

The patient was forty-five years of age. The cause of disease was concussion of the spine, produced simply by a jump, the patient coming down heavily on his heels. He was stunned at the time, confined to bed for a few days, and then appeared to get quite well. "It was, however, soon perceived that a great change had taken place in his habits. Having been extremely fond of manly sports and exercises—rowing, cricketing, riding on horseback, dancing, and the like—he discontinued to take part in any of them, although he continued to go every autumn to the Scotch moors, for the purpose of shooting grouse." At the age of fifty—*i. e.*, five years after the accident—"while engaged in this latter sport, he perceived that his right leg had lost a part of its usual strength; that although he could perform with it every motion, yet he could not perform it in the manner necessary for the purpose; that he could not put the foot in the exact place where he wanted to put it. In other words, that he could will the action of the muscles of the leg, and that they would obey the will, but, the co-ordinating power being lost, he could not combine their action so as to walk.

Mr. Clarke published in the *British and Foreign Medico-Chirurgical Review*, vol. xxx., p. 219, another interesting case of paralysis, with muscular atrophy and disease of the nervous centres, which Dr. Radcliffe brought to his notice. In this case, he says, "the ordinary and inefficient method of examining the nervous centres must have failed to detect minute structural changes upon which the wasting palsy was actually dependent, and would, perhaps, have resulted in recording the case as one of simple muscular atrophy. In this case, the condition of granular degeneration had gone on to vesicular atrophy. The cells had shrunk; none of them were larger than the *nuclei* of the surrounding healthy cells; the majority were much smaller, without any traces of nuclei or distinct granular contents. These shrunken cells consisted of irregularly-stellate and apparently membranous bodies, which, in some instances, seemed shrivelled sheaths of healthy cells, or like radiating portions of the connective tissue." The accompanying diagram, taken

from this paper, shows the relative proportion of the healthy, plump, vigorous cells, and the miserable shrunken sheaths to which by disease they have been reduced.

Amongst other proofs that might be adduced in favor of my view, that the seat of the disease is central in the spinal cord, is the fact that the use of the left hand in writing instead of the right, will induce uncomfortable feeling in the latter. The explanation of which I suppose to be that in writing or drawing the action of the muscles of the left hand, the will having travelled by the conducting fibres of the spinal cord from the brain to the group of cells in the left half of the cord, these cells, on being called into action, excite their neighboring cells, through the medium of the transverse commissure, in the right side of the cord—*i. e.*, those which co-ordinate the muscles in the right, such excitement being manifested by the uncomfortable feeling described. One of my patients, when I spoke to him about the use of the left hand, said he would continue to use it if I wished, but he thought it would be better if he did not use either. He said, "If I write with my left hand, I feel an indescribable tingling feeling in the damaged hand, which does not subside on leaving off writing;" for instance, he continued to feel it whilst talking to me, having been writing half an hour previously. Occasionally he has the same kind of sensation in the right leg. He also says that he has had less of this discomfort since he has held the paper, on which he has to write, by strong clips instead of holding it steady by the right hand, and then, instead of keeping the right hand before him, putting it out of sight behind the body.

Regarding treatment, Virchow says the therapeutical indications to be followed in the treatment of these palsies are very doubtful. "In writers' cramp the application of all means of healing has proved fruitless. Neither narcotics, or stimulants, nor tonics, nor nervines brought any advantage; just as little did counter-irritants, embrocations, electricity, or baths of any sort. Where rheumatism was the cause, Russian vapor-baths, cold douche, electricity, and embrocations with oil of turpentine, were able to remove the complaint. The cutting through of the long muscle of the thumb was tried, with some result, by Stromeyer, in a case in which writers' cramp was conditional on this muscle. Dieffenbach performed the cutting through of the muscle several times, without being able to arrive at anything by it; Langenbeck, with a passing improvement. Nothing therefore remains but the application of different mechanical appliances which make writing possible. Many such are

known, designed by Froschel, Cazenave, and others. One patient helped himself by means of placing the pen in a piece of wood bored through with holes, which he grasped with the whole hand, and so could regulate in writing.

As regards treatment, Romberg (*loc. cit.*, p. 323) says:—"The treatment hitherto pursued, both local and general, has been invariably ineffectual, so that the patients generally ceased from all attempts at cure, and remained satisfied with mechanical contrivances, the object of which was more or less to cause a pressure upon the skin and the subjacent muscles. Stromeyer also applied the principle of division of the muscles to the cure of the writers' cramp, and in one case, a brilliant result justified the anti-spasmodic reputation of tenotomy. As early as the fourteenth day after the subcutaneous division of the tendon of the flexor longus pollicis, the patient was able to resume his pianoforte-playing, and to write. On the other hand, it is to be observed that the operation was perfectly ineffectual in several patients upon whom Dieffenbach operated."

The following passage regarding treatment, in the relation by Drs. Adamson and Bell, of the case of Dr. P——, already referred to, is, I think, instructive:—

"As regards treatment, it may be mentioned that he made a long-continued trial of the following remedies, viz.:—iodide of potassium with sarsaparilla, strychnine, quinine, valerianate of zinc, phosphate of zinc, arsenic, tinctures of lobelia and lupulus, of cantharides, ergot of rye, actea racemosa, with various mineral acids. Throughout the progress of the disease, he employed occasional, and for the last two years regular, preparations of scammony and calomel. He had sedatives in every variety of form, externally and internally, and for the last three years took Battley's sedative solution every night, consuming about thirty ounces each year, besides trying chlorodyne, chloric ether, conium, henbane, lupulin, &c., &c. He tried galvanism and regular friction or shampooning of the limbs, wet bandages, &c. Subcutaneous injection of morphia was repeatedly tried, when pain was concentrated in any individual spot.

"Amongst other systems of treatment, he made a lengthened trial of the waters at Aix-la-Chapelle, and visited also several other German baths, including a water-cure establishment. He also placed himself for a time under a quack doctor, whose grand specific was systematic friction and kneading of the spine. These plans of treatment he discontinued only on being thoroughly convinced that they did him no good.

"Counter-irritation along the spine was also had recourse to,

but each and all without the experience of any, even temporary, relief. The diet was always generous, and with a liberal allowance of stimulants."*

No mention is made of complete and entire rest of the palsied hand when the disease first made its appearance. Believing, as I do, that this is the right course to pursue in the treatment of such cases, the fact that the employment of rest was not one of the remedial agents which so signally failed, should encourage us to employ it in any similar case.

My own experience then, in the treatment of these cases is very decided:—rest—entire rest from the occupation that has produced the disease. If the disease is recognized early, then two months' entire rest will arrest its progress; at the end of that time strychnine is of service, but it is injurious when given in the early stage of the disease and before rest. During the time of rest the health should be sustained and improved in every possible way. Fresh bracing air—mountain air if attainable—is of more service than all the tonics in the world. As regards tonics, they must be varied to suit the peculiarities of each constitution. Zinc, iron, and quinine are the tonics on which I rely most.

The following is one of the most striking cases of paralysis I know of, induced suddenly by little more than an hour's continued strain upon a nervous centre, confirming all that I have said regarding the controlling and co-ordinating power of the spinal cord:—A gentleman got into the five o'clock express train for Brighton. He was no sooner seated than he felt a strong desire to have the bowels relieved; but there was no help for it—the train started, nor did it stop until it reached its destination, at a quarter past six o'clock. All this time the desire to go to stool increased more and more, but he restrained it successfully by a violent effort. The moment the train stopped he sprang out of the carriage, when the sphincter ani relaxed, and the contents of the bowels were poured out into his clothes. The curious part of the case is, that he became paraplegic. The spinal cord had been over-exerted, exhausted, and paralyzed by the long-continued effort. In this case the brain, from which I suppose all must admit that the will emanated by which he desired to control his sphincter, did not give way. His intellect was not impaired, and the whole muscular system was not paralyzed, only that portion which is supplied by the lower portion of the cord. I regard this as identical in its pathology to scriveners' palsy, only that the destruction of the nervous centre was sud-

* Beale's Archives, vol. iii., p. 4.

den, not gradual. I do not know what treatment was adopted in this case, but, reasoning from analogy, I should have advised complete rest; that some arrangement should have been made to prevent his ever having to control the action of the bowels if he had retained in any degree that power.

Having told you all I know, or fancy I know, concerning the palsy, and all the speculations I have made regarding the pathological changes produced by, or productive of, the disease, I will ask you to carry on the subject. If you meet with any cases amongst the poor classes of our working-men, send them here, and I will give them a bed, and do the best I can to cure them. If you hear of any such cases—and mind you inquire for them when you go into the country for your Christmas holidays—get your medical friends to watch them; and if they can obtain a *post mortem*, ask them to send me the cervical enlargement of the cord (if they cannot obtain the whole), and we will make sections after the plan recommended by Lockhart Clarke, and test the validity of my views respecting its morbid anatomy. —*London Lancet.*

TUBERCULAR PERITONITIS, OR SCROFULOUS INFLAMMATION OF THE ABDOMINAL VISCERA.

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This is a chronic disease in the wildest acceptation of the term, and, withal, the most ambiguous. Why medical writers have so generally overlooked it altogether, or made but cursory allusion to it, is a mystery to me, inasmuch as they must have had some of these cases under their charge. Not less than four or five have come under my own observation. They are an eccentric and peculiar class of cases, and, so far as my own experience is concerned, have occasioned me more annoyance and perplexity than would be believed. I shall never forget the trouble my first patient caused me, and though at last I had the satisfaction of knowing that her disease had been incurable from the first, yet had I been fully advised of its nature, I think I might have withheld much useless medicine, and been spared many moments of needless anxiety.

When I opened the abdomen of the dead woman, the mystery was at once explained. I was amazed at the organic lesions that were revealed: bands of solidified lymph, in various stages

of organization, fastened and glued the abdominal organs in a confused and matted mass, putrid with fœtid pus; thousands of little elevated bodies, variously discolored by venous congestion, thickly studded every portion of the peritoneum, being more thickly grouped over the liver and stomach, the organs that occasioned the greatest distress. The folds of the omentum and mesentery were loaded with them, and were greatly swelled and altered in texture. These tubercles were of various size—most commonly of the size of small shot or mustard seed, and were deposited in the subserous structure under the peritoneum. She had never complained of cough or pulmonary disease—but to satisfy myself of the non-implication of the lungs, I made several sections of them, but discovered no tubercles or other sign of pulmonary disease. The whole force of the malady seemed to have expended itself in the abdominal cavity. She was sick some nine or ten months—that is, from the period of cessation of her menstrual flow, the time from which she had dated her illness. All of my cases were young women, ranging from 18 to 21 or 22 years of age; and in all the very first complaint was a suppression of the menses, which never returned throughout the subsequent progress of the case.

At first the patient does not feel sick or make any complaint, but having missed one or two catamenial periods, she becomes concerned, and applies for something to restore the lost uterine function. After a longer or shorter interval, other symptoms come; such as a feeling of discomfort, wandering pains in the abdomen, a severe stitch in the side frequently recurring, a fit of nausea or vomiting, or diarrhœa alternating with constipation. The pain is not lancinating, or of that character that distinguishes ordinary peritoneal inflammation, and is unattended by fever, unless it happen to be accidental or an intercurrent one. It is such a pain as a hysterical or dyspeptic woman is apt to have, consequently it is likely not to occasion alarm. The appetite continues good, with occasional interruption by nausea or vomiting. The skin is natural. In a word, the patient does not think herself very sick, and attributes any discomfort she may feel to her menstrual irregularity. After a time, the abdomen swells, and finally presents unequivocal ascites. The case is worse than had been thought. There is obscure organic disease of grave import, but what organ is the sufferer? Attention is naturally turned to the liver, and diligent search is made in this locality. All the abdominal viscera are inquired after in turn, according to their importance, in the hope of finding the affected organ, but in vain. We reëxamine with still greater

caution, till every gland, every function, every tissue whose derangement or disease might induce the result, however distant from the locality, have been questioned with the greatest caution and circumspection; yet with the same unrequited labor. There is no hepatic, renal, or cardiac disease that can be discovered; no history of an old peritonitis; no story of having "caught cold" by lying on damp ground—which means a sudden interruption of transpiration, the occasional cause of acute abdominal dropsy; whereas this affection of which I speak is chronic, and comes on without any assignable cause.

The ordinary remedies will generally remove the effusion, but fresh accumulations take place, and each successive time become more difficult of absorption. It continues to progress. Digestion becomes more interrupted; the nausea and vomiting more frequent; the abdominal uneasiness augments. The skin perhaps is dry, the tongue coated, the pulse quick, the urine scanty and high colored, the abdomen hot. If sudden pressure be made upon it, the recti muscles quickly contract, to ward off pressure from the underlying organs. Pain locates itself more intensely at a certain spot. To all appearances the case is now culminating. Inflammation has all at once revealed the hidden enemy: and what has been confused and tangled in the chain of morbid phenomena is suddenly understood and referred to inflammation of the liver, or of the stomach, or of the intestines, &c., &c., as the specialty of the symptoms may have determined.

The patient is now really, and is believed to be, dangerously ill. She is accordingly mercurialized, opiated, blistered, &c., as the symptoms may indicate or the emergency require. I do not think any one would bleed these cases. Presently the violence of the symptoms begins to abate, the fever to decline; the skins grow moist, the tongue clean, the urine clear and more abundant, and the bowels soluble; appetite returns, and the spirits rise. The patient begins to get strong, to sit up, to walk about; perhaps to attend to light household duties. But the rebound is not complete; the patient seemingly loiters on the threshold of health, and will advance no farther; the injury to the organism is too vast to admit of it. Some how, she wont get quite well. Presently there comes the miserable relapse. She complains of a pain here, or there, or there, till first one then another of the various abdominal viscera have been accused in turn of inflammation or other serious disorder; diarrhœa sets up its work of reduction, and what with deranged digestion and febrile irritation, the powers of the system are rapidly reduced —emaciation becoming daily more conspicuous.

If the hand be now laid on the abdomen it will be found intensely hot and drum-like; hectic is fairly set in, and this enemy allows the invalid no rest. But while life is thus hopelessly compromised and speedy death inevitable, yet, strange and incomprehensible, nature seems frequently to marshal her forces afresh and recover some of the lost ground. Thus, when daily expecting the death of the patient, we may hear of her getting better. But the effort is more spasmodic than formerly; if there was too much damage to important organs inflicted by the first attack of the disease to admit of recovery at that early stage of the malady, now more than ever is that end unattainable, as there has been fresh accessions of injury, embracing new organs and textures, perhaps equally necessary to the maintenance of life; therefore the counter-current soon sets in, till, finally worn out by combined hectic irritation and starvation, the patient passes out of life. Thus perished my first patient.

The second one died more quickly, seemingly destroyed by the violence of the excessive inflammation which the tubercles occasioned; she lived several months, and died suddenly of suppression of the urine, passing off in profound coma. For some time she had suffered from renal symptoms, discharging a small quantity of bloody urine, attended by considerable pain. A few days before the fatal issue, it stopped altogether. She was a colored girl, tall, good-looking, and of healthy appearance. A *most mortem* examination revealed myriads of miliary tubercles lining the cavity of the peritoneum. They literally covered the bladder and the kidneys, and were florid with the recent congestion. Very little adventitious membrane could be seen, but there was considerable bloody serum. The inflammatory action had not been sufficiently intense or prolonged for the evolution of this product. She died in the first stage. When it runs its full course, the various abdominal organs are bound, glued, and matted together by bands of this material, and very offensive pus may also be present. When the abdominal walls are fastened down upon the intestines or other viscera by adhesions, it may occasion tumors that give rise to great perplexity and error in the diagnosis. Having committed this mistake myself, I mention it to put others on their guard. It was the first case of this form of disease that came under my own observation, and on account of my inexperience was the source of more trouble to me than all of the rest combined. The patient was a young woman of 18 years. Her parents sent for me to ascertain the cause of her continued menstrual suppression—it was

now over three months since her last catamenial flow. The abdomen was also swelled. The suppression of the menses and the abdominal swelling had come on without any cause she could assign. She had a healthy look; her pulse was natural, her skin comfortable, and her appetite good. I wont say what was my suspicion—but when I came to examine the abdomen, to my infinite surprise I found that it fluctuated. Beyond a question, there was fluid within the cavity of the peritoneum, and a little pains assured me it was not ovarian. The abdominal walls were uniformly distended, and the fluid shifted according as she changed her position. But how came it there? This was a problem difficult to solve. She had never suffered from peritonitis, or any kind of intestinal inflammation; there was no disease of the liver that could be discovered, nor of the heart, nor of the kidneys, nor had it resulted from a sudden chill, nor was there any anæmia to add its suggestion. Then how was it occasioned? To say that it resulted from some disturbance of the equilibrium between peritoneal secretion and absorption, was to make it as indefinite as ever, unless I could trace it to a disease of the peritoneum *per se;* this I could not do, as there had been no former peritonitis nor present tenderness; therefore I adopted what I then considered as the most plausible conclusion—that it resulted from some obstruction of the portal circulation; and whether this was hepatic or extra-hepatic I was forced to leave for future determination.

I prescribed brisk saline cathartics, alternating with the compound diuretic pill of squill, digitalis, and calomel. Some eight or ten days afterwards, I found considerable tympanitis, and whilst I was sitting by the bedside conducting my examination, her mother approached me, and asked "why her abdomen sounded so hollow, if it was full of water?" I told her that it had been removed, and gas had taken its place; that the medicine had acted well, and her daughter was much better. This was a most sagacious woman, and I therefore was careful not to excite her fears, unless I could satisfy her curiosity; but to be frank and honest, the tympanitic condition was even a deeper mystery to me than the dropsy had been. I could not understand it. It seemed to me to be a most novel case; but I did not feel alarmed for her safety, as her general condition was good, and there was very little abdominal uneasiness—not enough to cause suspicion of inflammatory action. She had occasionally felt nausea, and had vomited once or twice. The discharges from the bowels were still copious. Her tongue was a little furred. Her appetite had also suffered impairment, but

there was no fever. She informed me that she was "very restless at night and could not sleep." I ordered a small pill, composed of equal parts of the mild chloride of mercury and opium, a half grain of each, morning, noon, and night; at the same time enjoining quiet, and simple but nutritious diet. She continued to improve, and was soon convalescent from her singular attack, as I believed, and I accordingly stopped visiting her. But I was mistaken, for she stopped short of complete recovery, and sent for me again, under a relapse, several weeks later. There had been a fresh accumulation of serous liquid in the cavity of the peritoneum. Of late she had suffered from irritable stomach, and was vomiting more than formerly. She was also constipated. There was considerable pain in the right hypochondrium, and pressure under the ribs greatly augmented it. At this point there was a feeling of distension, associated with deep throbbing pain. The pulse was excited, and she complained of thirst; the tongue was sharp, with red edges, and densely coated along its middle. I at last became fully satisfied that she was then laboring under acute hepatitis, and considering her former obscure symptoms, came to the conclusion that she had had the chronic or subacute form from the first, and it had betrayed itself by this sudden outburst or overt action; that somehow the ascitic collection was intimately associated with it, bearing the relationship of effect and cause. I accordingly treated her for acute hepatitis; I combated the most serious symptoms, and they were hepatic. She was many weeks in bed, and suffered much—had lost considerable flesh, and was broken down in body and mind, her face written over with the record of past suffering; she asked for articles of food fretfully, or with a sigh; she looked the confirmed invalid; she was better than she had been, but I dispared of her life. Wonderful to narrate, this patient began gradually and slowly the work of recovery. It was a long time before she walked her room with anything of ease or comfort. The serous collection, which had resisted every means made to dislodge it, suddenly disappeared of its own accord; so was it with other grave symptoms, one after an other departing as she continued to gain. She boasted of her appetite, of her returning strength, of her improvement generally. Alas! it was only a truce, for she very soon sent for me again, with worse symptoms than ever; this time she kept her bed till she died. Hectic now set in, to add to her debility and discomfort.

It was during this last phase of her malady that one day, whilst I was ascertaining the condition of her abdomen, I no-

ticed a tumor in the right iliac region; it fluctuated, and was about the size of a cocoanut, containing perhaps a quart or more of liquid. No position in which I placed her succeeded in dislodging it. It was evidently sacculated. I could not resist the conclusion that it was ovarian dropsy, and I blamed myself for not having noticed it before. But when did it come on? This she did not know, but said "she had thought she had been swelled on that side for some time." Her abdomen was intensely hot, and pressure gave her pain; her stomach was very irritable, and she vomited often; severe diarrhœa alternated with constipation. The last symptom I had noticed throughout her entire illness, and I believe it a very valuable one, as it was also present in an equal or less degree in the other cases. One day I was vastly surprised, on examining the supposed ovarian tumor, to find that it contained gas instead of a liquid. I was truly amazed. A few weeks after this she died, when I discovered the phenomenon had had its origin in the formation of an adventitious cavity, caused by singular adhesions of intestines, bladder, omentum, and abdominal walls. It contained gas and a little bloody serum. Outside of this cavity, everything was bound, glued, and tied together in a confused mass, fœtid with pus. It beggared all description. Nothing escaped; not an organ or tissue in this cavity but showed marks of disease. The wonder was how she had managed so long to survive such ruin. The same answer would apply here as is given in cases of tuberculosis pulmonalis, where the organic structure of both lungs is nearly entirely destroyed—that the morbid change has been gradual, allowing the system opportunity to accommodate itself to each successive injury, thus in a manner becoming habituated to diseased action.

In conclusion, I will add, that whilst this affection is probably a form of scrofula, yet the cases that have come under my observation had not previously given any evidence of strumous cachexy; on the contrary, the patients were healthy and well developed, and consequently I was little prepared for such a denouement.

A NEW MODE OF TREATING DISEASES OF THE CAVITY OF THE NOSE.

By J. L. W. THUDICHUM, M.D., M.R.C.P., Lettsomian Professor of Medicine of the Medical Society of London.

The treatment of diseases of the cavity of the nose has hitherto

been attended with very great difficulties, owing to the circumstance that the cavity is large, complicated by many sinuosities, interrupted by many thin bony and membranous projections, and therefore little accessible, and for the most part not accessible at all, to instruments by which growths might be removed, or topical remedies applied. The removal of excrescences from the lower and median nasal canal was yet the most successful of surgical operations, although it was frequently left incomplete, or remained unavailing, owing to the speedy return of the polypi. But the topical application of remedies for the treatment of acute and chronic affections of the nasal cavity, which is certainly the principal therapeutic requirement, and in many cases prevents the formation of polypi, could only be attempted by mechanical contrivances which were so objectionable to the patients, that after longer or shorter trials they had to be abandoned. I have had under my own care several important cases of affection of the nasal cavity, in which the mere possibility of cleansing the cavity of the nose would have been a great boon to the patients; others, in which I have no doubt the application of remedies, such as we are in the habit of using in conjunctivitis, would have effected a speedy recovery from painful and troublesome conditions. The only mode of cleansing the cavity of the nose which was then known in medical science, was by injections with a syringe; but, owing to the velocity with which the injected fluid touched the walls of the nose, this process always created much irritation, pain, sternutation, and lachrymation, and the patients mostly opposed the entrance of the fluid by expiratory efforts, which, indeed, were the only means they had of preventing the fluids from running down the choanæ and reaching the larynx. The mere effect of pure water upon the Schneiderian membrane being highly irritating, two causes combined to defeat the object of injections of water; and when medicines which might be supposed to have a beneficial effect upon the diseased Schneiderian were dissolved in the water, they, although perhaps better tolerated than pure water, could not be kept sufficiently long in contact with the affected parts to exercise upon them even such slight medicinal action as their necessarily diluted state permitted. There was a third application that could be made—namely, the introduction of medicines in the form of fatty or mucilaginous ointments. In one case, in which I endeavored to benefit a chronic ozæna—a residue of scarlet fever—by topical applications, a solution of sulphate of zinc in intimate mixture with lard had a most decided effect, the patient being much improved, though

not cured. But this application of ointment to the surface of the lower canal of the nose, and to a part of the median canal—which are the only portions that, as a rule, can be reached, even by clever manipulation—is the most objectionable of any, so far as its accompaniments of irritation and pain are concerned, sternutation and lachrymation being not rarely long continued after it, and the peculiar pain producing a reluctance on the part of the patient, which it is difficult to overcome in young and old people. All these applications, then, were partial, imperfect, irritating, and, consequently, unavailing to effect the desired end. Many cases of superficial ulceration ended in caries, embittering the life of the patients, and through the odor making intercourse impossible, and family relations troublesome; other cases of chronic inflammation ended in deformity of the external nose, and the formation of polypi in its cavity, and produced a constant false resonance of the voice; a number lasted throughout a lifetime, the nose being constantly a weak part, and capable of prostrating the patient at any opportunity which dust and wind might afford; others had consequences even more severe, and the specific ulcerations of the cavity of the nose only too frequently terminated in that sinking of its bridge which is the most painful proclamation of disease with which a patient can become afflicted. Then there were the convulsive affections produced by local irritation in the nose—those cases of fabulous sneezing in which hardly any remedy availed, even in diminishing the number of spasms in time, because the centre and seat of the irritation could not be reached by medical agencies. Truly dangerous were some cases of bleeding from the nose, in which the broken bloodvessels could not be reached by either styptics or mechanical compression, and could not be made to contract by contact with that most powerful of hæmostatic agents, ice or ice-cold water. Not a few cases of this kind terminated fatally, or required the most desperate measures to prevent the fatal end, such as plugging of the nose and choanæ with sponges or tinder; and these not rarely left a condition of anæmia in which other accidental diseases could put a stop to life with comparative ease, or which continued without the supervention of other diseases, enfeebling and considerably shortening the rest of the life of such patients.

All these difficulties, and many more which might be mentioned, are removed at one stroke, by the discovery of Professor Weber, of Halle:—that when one side of the nasal cavity is entirely filled, through one nostril, with fluid, by hydrostatic pressure, while the patient is breathing through the mouth, the

soft palate completely closes the choanæ, and does not permit any fluid to pass into the pharynx (a physiological fact thus far already discovered by E. H. Weber, of Leipzig, before 1847, and published in Muller's Archiv., 1847, pp. 351–354); while the fluid easily passes into the other cavity, mostly round and over the posterior edge of the septum narium, in some persons also through the frontal sinuses, and escapes from the other open nostril, after having touched every part of the first half of the other cavity of the nose, and a great part, certainly the lower and median canal, of the second half. By means of the application of this principle to the treatment of diseases of the nose, it is possible easily and frequently to wash the nasal cavity, to disinfect and deodorize it, to remove the sordes which accumulate so easily in it, and to apply to its surface a great number of beneficial medicinal substances, so as to prevent acute affections from extending, and to incline them towards a speedy recovery; to stop hemorrhages, allay irritations, and subdue, in a remarkable manner, chronic affections of the Schneiderian membrane, so as to reëstablish a perfectly healthy surface and normal condition of the organ of smell.

Of the medicinal solutions which may be applied to the cavity of the nose.—Although the solutions before enumerated act in a measure as alteratives, resolvents, and escharotics, and, therefore, rarely constitute a sufficient medical application by themselves, yet they are more frequently used for preparing the nose for the application of more energetic and specifically acting solutions. To this latter class belong the solutions of alum, sulphate of zinc, and sulphate of copper—the best astringents; the solutions of nitrate of silver, and bichloride of mercury—the most suitable alteratives; and the solutions of chloride of calcium, in which suboxide or oxide of mercury is suspended in a finely subdivided state, together with the bichloride solutions—the best specifics. Of stimulating solutions, a mixture of eau de Cologne with water or salt water is sometimes useful.

The probable concentration of these solutions can be surmised from the circumstance that the sensibility of the healthy nasal cavity stands about midway between that of the eye and the mouth. When the nasal cavity is completely filled with fluid, the specific sense of smell cannot any longer be exercised; even the solution of eau de Cologne is not perceived to be such when it once fills the nose. The sense of smell being thus entirely obliterated by the fluid contained in the nose, the reflex effects which substances may exercise by means of this sense are entirely absent; and the only impingement which the fluids

can produce is upon the filaments of sensitive nerves coming from the fifth pair. It is owing partly to this circumstance that comparatively strong medicinal solutions are borne by the nasal cavity without great secretion. Another circumstance favoring the application of stronger solutions, is the ready manner in which the healthy surface of the nose defends itself against irritating, chemically-impinging substances, by means of a copious flow of mucus. Excoriated or ulcerated parts lack this power of rapid secretion; and hence they are affected by medicinal solutions much more than the healthy parts of the surface of the nasal cavity. What is here stated is the general result of experience and experiment; but, at the same time, I must insist that the application of medicinal solutions in each case should be begun with the greatest caution, as individuals differ greatly in point of irritability of the nasal cavity. In the beginning, therefore, very dilute solutions of medicinal substances should be used, and their strength be increased gradually, after their effect has been well exhausted, by the use of greater quantities applied by a quick flow, or the use of smaller quantities in a slow current distributed over a longer time of contact.

Solution of Alum.—Half an ounce of roughly-powdered crystallized alum is dissolved in a small quantity of hot water, and the solution made up to one quart by means of cold and tepid water in such a manner as to ensure that the temperature of the solution should be below, but near to, blood-heat. In superficial ulceration, or blenorrhagic conditions, this solution is well borne. Ulcerated parts, which before its application were red, mostly appear as white patches after its application, thus showing that the effect of the alum on the ulcerated surface has been considerable. When I was desirous to manage with smaller quantities of solutions, I have sometimes mixed a little permanganate solution with that of alum.

Solution of Sulphate of Zinc.—From a scruple to a drachm of the sulphate of zinc, dissolved in a quart of warm water, together with half an ounce or an ounce of sulphate of soda or sulphate of magnesia, gives a suitable fluid.

Solution of Sulphate of Copper.—Of this sulphate also from a scruple to a drachm, mixed with half an ounce or an ounce of soda sulphate or magnesia sulphate, can be dissolved in a quart of warm water.

Solution of Acetate of Lead.—Of this crystallized acetate, from a drachm to two drachms, together with half an ounce or an ounce of crystallized acetate of soda, may be dissolved in a quart of warm water.

Solution of Nitrate of Silver.—Of this salt, not more than from half a grain to a grain should be dissolved in each ounce of water. A quart of water, therefore, in which previously from half an ounce to an ounce of nitrate of soda has been dissolved, may receive from sixteen to thirty-two grains of the nitrate. In particular cases the solution may be made stronger. The nitrate of potash is not so good as the nitrate of soda, because it has slightly irritating qualities. When it is necessary to use it in an emergency, when soda nitrate cannot be had, the solution should be more diluted.

Solution of Bichloride of Mercury.—The greatest caution is necessary in the use of this agent, as it has a tendency to produce excoriations on healthy surfaces. The first solution to be employed should be one containing five grains of corrosive sublimate in a quart of water, in which an ounce of common salt is also dissolved.

Solution of Chloride of Calcium with suspended Oxide or Suboxide of Mercury.—These fluids are the common phagedænic waters, or black and yellow wash, to which common salt has been added. Two drachms of calomel, twelve fluid ounces of lime-water, one ounce of common salt, and twenty ounces of common warm water, yield the black solution. One scruple of corrosive sublimate, one ounce of common salt, twelve fluid ounces of lime-water, and twenty fluid ounces of common warm water yield the yellow wash. These mixtures must be well agitated in the glass vessel while being allowed to run through the nasal cavity.

Sedative solutions.—Of prussic acid forty minims to the quart of warm salt-water, of tincture of opium two drachms may be taken. These drugs may be added to some of the above solutions of metallic salts. But if this is desired, it is better to substitute a solution of morphia for tincture of opium. The prussic acid is incompatible with the copper, silver and precipitated mercury solutions; it goes conveniently with the alum and common salt solutions.

Styptic or hæmostatic solutions.—Amongst these, ice-cold salt water, containing an ounce of salt to a pint of ice-water, takes the first place. When this, after having been continued for a considerable time, is insufficient to stop the hemorrhage, a fluid ounce of the tincture of sesquichloride of iron may be added to each pint of ice-cold salt-water.

Stimulating solution.—One ounce of eau de Cologne upon ten ounces of salt-water, is a useful stimulant. Strong spirit of wine may be taken in place of the eau de Cologne.

I have now fully, and for some readers, perhaps, somewhat too explicitly, described a number of medicinal solutions which may with advantage be applied to the treatment of nasal diseases by the method in question. I was desirous to impress upon the memory of the reader the fact that I recommend only such solutions as are brought up to a certain specific gravity by salts which do not decompose the medicinal agents. There may be cases in which it is desirable to swell the Schneiderian membrane by watery fluid and produce endosmosis, and others in which highly concentrated solutions may beneficially be used to effect exosmosis and shrivel Schneider's membrane. These adaptations, and the various accommodations of the fluids and their degrees of concentration, I must leave to the skill and ingenuity of those who make use of this method. They will, also, probably multiply the resources of the rhinotherapeutic pharmacy, and thereby add to the success and certainty of this interesting method of treatment.—*London Lancet.*

BACTERIDIA AND MALIGNANT PUSTULE.

To the Editor of The Lancet.—*Sir:*—The facts related in the following extract from a masterly article on Spontaneous Generation, by M. Jamin, in the *Revue des Deux Mondes*, are in all ways so interesting, that I make no apology for asking you to publish them. I ought to add that the italics, which occur in one or two places, are mine.

"Dr. Davaine has devoted himself for some years to the careful study of a terrible malady of the 'charbon' genus—The splenic apoplexy (*sang de rate*—anglicé, 'blood') which developes itself spontaneously in sheep, and is inevitably fatal to them. The blood of the diseased animals, examined under the microscope, has been found crowded with minute organisms allied to the *bucteria*, and which have been named *bacteridia*. This blood injected into the tissue of another animal carries these creatures with it, and death is certain. The malady is equally transmitted when a rabbit is made to swallow either the blood or part of an animal affected with splenic apoplexy. The infected blood may be dried and *kept for an indefinite time without losing the germs of the infusoria which it contains;* and whenever it comes to be injected or to be given as food, the disease is propagated. These facts being ascertained, as the symptoms of splenic apoplexy offer some affinity to those of

another malignant malady known by the name of 'charbon' (or 'malignant pustule'), inquiries were instituted as to whether there might not be a still closer bond between the two affections. 'Charbon' begins by a 'malignant pustule' of blackish color, surrounded by a ring of vesicles, which must be speedily destroyed by caustic, if a general infection is to be avoided. On the 14th of April, of the present year (1864), Dr. Raimbert was called to a carter, who had contracted a true malignant pustule on a farm where the sheep were suffering from splenic apoplexy. He removed the pustule, dried it at once, and handed it over to Dr. Davaine, who examined it under the microscope. It was a perfect *felt, composed entirely of bacteridia.* Rabbits fed with it contracted splenic apoplexy in consequence, and died with their blood crowded with *bacteridia*, and communicated 'charbon' to other animals. Here, then, is a disease transmitted from sheep to man, and appearing in him under the form of a pustule, which, in its turn, has the power of communicating to all animals the particular virus which it contains. And what is this virus? A brood of infusoria of a special and venomous species. *The smallest quantity suffices to kill, because it suffices to sow and multiply the species.* The malady is transmitted by inoculation, because the animalcules pass from the infected to the inoculated subject; it is transmitted by the air, because the germs dry up and are wafted away, and become again sown; possibly also, as many hold, by the bites of flies, which thus become the vehicle for the transmission of the *bacteridia.* Such is the explanation, not less simple than certain, of the effects of a particular virus. The future will decide how far it is possible to extend to all analagous cases so fertile a theory, but already it is easy to understand the hopes of physiologists and to predict their success; perhaps we are on the eve of knowing, avoiding, and curing contagious scourges."

The facts here detailed are not altogether new. Virchow, and some earlier observers, whose names escape me for the moment, had already pointed out the occurrence, in countless numbers, of a kind of "vibro" in the blood of *living* animals affected with charbon.

I have not been able to refer to Dr. Davaine's own account of these researches; but before the case which he wishes to make out for the minute organisms he describes can be considered as finally established, other data will be required beyond those adduced by his reviewer. Not only must the constant presence of this particular species of *bacteridia* in the diseases in question be ascertained, but its absence in other putrefactive

disorders. In all such cases there is a special danger, which those who have most studied the subject will best appreciate, of falling into the old error of taking for essential what may possibly be only an epi-phenomenon. The perfect way in which the facts seem to explain all the conditions, although a strong argument in favor of the interpretation set upon them, may, on the other hand, easily beguile us into a too ready acquiescence in it.

At the same time, the whole tendency of recent research, and of Pasteur's discoveries in particular, is to the effect that the tribe of minute organisms to which the *bacteridia* belong, in reality take the initiative in, and are the primary cause of, the zymotic changes with which they are found associated.

The uncontrollable *itching* which marks the first stage of malignant pustule, and is so characteristic of it, is, when considered as a phenomenon which betrays the presence of so many parasites in other parts, not undeserving of attention in connection with Dr. Davaine's view.

Should his discovery be confirmed by more extended researches, it is one of which it will be difficult to overrate the value.

As regards malignant pustule, its importance will be supreme. Diagnosis, pathology, origin, mode of propagation, and indications of cure will be all summed up in the conditions which attach to the growth and multiplication of a single parasitic organism.

In relation to diagnosis, the fact is one which might eventually become of the greatest possible use. For, if it be true that the first brood of *bacteridia* is developed in the part which is to be the seat of the future pustule, the practitioner, armed with the microscope, and with the little "harpoon," with which the Germans dip for trichina, might ascertain the characteristic presence of these minuter parasites by means of an operation not more formidable than the puncture of a grooved needle.

But, as M. Jamin rightly suggests, the interest of this discovery, should it be confirmed, culminates in its relation to the subject of contagion generally.

In a memorandum on the Investigation of Epidemic and Epizotic Disorders, which I drew up at the request of the British Medical Association, in March, 1863, there occurs the following passage:—

"In order to render the inquiry on which the Association is about to enter really comprehensive, it would be necessary to associate with the study of epidemics that of the diseases caused

in man and animals by living parasites, external and internal.

"A fuller knowledge of the phenomena attaching to the dissemination of the prolific and minute germs of these parasites could not fail to be of great use in helping to the true interpretation of the phenomena which attach to the strictly analagous dissemination of the equally prolific and equally minute germs of contagious poisons.

"In particular, it would be of the highest value in showing by data that could not be gainsaid, what is the real worth of the negative evidence now so implicitly relied on, as an indication of spontaneous origin, and as opposed to the law of propagation by continuous succession.

"Additional reasons for putting the parasites and the contagions together in such an inquiry, are:—1, that at many points the two blend, insensibly, one into the other; 2, that, with the advance of knowledge, diseases are constantly being transferred from the group of common contagions to the group of parasites; and, 3, that there already exists amongst the most advanced thinkers on these topics, a shrewd suspicion that the two groups will eventually coalesce, and be found in their essence identical."

Dr. Davaine's interesting discovery seems not unlikely to offer a striking illustration of more than one of the several positions here taken. I am, Sir, your obedient servant,

WILLIAM BUDD, M.D.

The Manor House, Clifton, Feb. 5th, 1865.

THE STARVATION OF PRISONERS.

If this last of modern wars, now so happily ended, has shown how great has been the advance towards perfection in the art of warfare by an enlightened and inventive people, it has none the less clearly demonstrated how stationary remains man's capabilities for evil in all time. Moved by disappointed ambition, hatred, and revenge, cultivated men of the nineteenth century have proved to be as thoroughly brutal and unchristian as the lowest savages in Africa. The murder of our gentle President was the last of a series of the most inhuman acts that human beings ever devised, but it was far from being the worst of them. In the midst of the judicial investigation which appears to show beyond question the complicity of authenticated and important rebel agents, if not of the chief himself, in this long-planned assassination, the details of a still fouler plot are

brought to us. Failing in their designs to burn the inhabitants of our prosperous cities in their beds, the rebel emissaries conceived the monstrous plan of calling the pestilence to their aid, and one of our own profession among them, if it can be believed, was found vile enough to go to its haunt and procure the means of spreading it among the crowded capitals of the North. The Bermuda authorities can scarcely be charged with any exaggeration or over-friendliness to us in their account of this matter, for the accomplice in this fiendish attempt was committed to jail in default of bail of only £50.

But far exceeding any of these crimes in malignancy and depravity, is the process of maiming or slow death by starvation and exposure, which has been systematically practised upon the thousands of our poor fellows in Southern prisons. Concerning the acts and the guilty agents in this instance, there can be no possible doubt; the rebel authorities, civil and military, are personally responsible for this most cruel and wholesale murder. The horrors of Belle Isle, and of the slaughter-pen at Andersonville, where many thousands of our soldiers were slowly starved to death, have been published to the world by the Sanitary Commission, but scarcely any notice has been taken of these barbarities abroad. Some of the latest English journals, in the very numbers in which they express the utmost horror of the last assassination, deny the truth of these statements altogether, and assert that an act of charity on the part of the rebel government, in setting free a few sick prisoners, that they might see their homes once more, has been basely perverted in this manner by the Northern press. Fortunately, we are able to support these statements, perfectly accurate in every particular, by other testimony of a character which English medical journals, at least, will not dare to question. In March, of the present year, 9000 returned prisoners were received within our lines at Wilmington, N. C., of whom 2500 were in such a state that they could not be moved farther North. Dr. J. C. Dalton, Professor of Physiology and Microscopic Anatomy, in the College of Physicians and Surgeons, New York, and author of the widely-known treatise on Human Physiology, and Dr. C. R. Agnew, of the Sanitary Commission, were selected to visit them and examine into their condition, for the purpose of determining whether they were suffering from disease, or in consequence of starvation and exposure. The latter gentleman in his report states:—

"I had several interviews with citizens of Wilmington who had seen our prisoners as they were brought into the city for

exchange, with a view of ascertaining what their impressions were, as to the motives which influenced the rebel officers in the management of squads in their respective commands. I found that some of the rebel officers in charge of our returned prisoners had permitted the citizens to furnish them food, while others had forbidden all access to the pens in which the men were quartered; and one, a rebel captain, having charge of about a thousand men, had gone with his drawn sword and knocked the food from the hands of the famished men, informing the citizens who had furnished it, 'that the best thing that could happen to the Yankees was to be starved, and thus expiate the crime which they had committed in invading Southern territory, and destroying the peace of Southern homes.'"

Dr. Dalton spent two days in visiting the hospitals containing the returned prisoners, and says:—

"But the greatest and most pitiful necessities were among our returned prisoners. No description can do justice to their miserable condition, because nothing but an actual inspection of them, in considerable numbers, can show that the wretched faces and figures that present themselves everywhere, are not the isolated and exceptional effects of severe illness, but the general result of a uniform and long-continued process of starvation and misery. There were degrees, of course, in which this condition was more or less marked. The better cases were walking about the streets, perhaps barefooted, or with no other clothing than a pair of white cotton drawers, and an old blanket or overcoat, both equally ragged. In these, the slow, dragging gait, listless manner, and cavernous, inexpressive look of the face, together with the general emaciation, formed a peculiar aspect by which they alone attracted the attention of the passer-by, and by which they were at once distinguished from the other convalescent soldiers. There was no occasion to inquire in Wilmington which were our returned prisoners; after half a day's experience, any one could distinguish them at a glance. Many of them, who had strength to crawl about in this manner, were prevented from doing so by the want of clothing. Major Randlete, the Provost Marshal of Wilmington, told me that on one day forty of these men came into our lines *absolutely as naked as they were born.* I inquired of a considerable number of them, whom I saw in the hospitals confined to their beds—naked, or with only a shirt, and covered with a hospital blanket—what had become of their clothing, and was told that they had thrown away what remained as soon as they could obtain shelter, because it was so ragged, filthy, and full of vermin. One of

them, on being told that the Sanitary Commission had sent them flannel shirts and drawers, caught at the word with a childish eagerness, and repeated the good news to his companions with a faint, half-imbecile smile, as long as I was within hearing. With the great majority of the feebler ones, personal cleanliness was a thing which they appeared to have forgotten. They no longer retained sufficient strength, either of mind or body, to appreciate or correct the degredation to which months of unavoidable uncleanliness had reduced them. In the most extreme cases, the condition of the mind, as well as the expression of the face, was absolutely *fatuous*, and the aspect of the patient was not that of a strong man reduced by illness, but that of an idiotic pauper, who had been such from his birth. Nevertheless, several of the surgeons informed me that the condition of the patients had visibly improved since their reception, and that I could not then form an adequate idea of what it was when they entered our lines. In that case it must have been lamentable beyond description.

"The testimony of both men and officers was uniform as to the causes of their unnatural condition. These causes were—1st, starvation; and 2d, exposure. Only such officers and men as could procure money were able to obtain anything like sufficient nourishment. Some of them told me that during the entire winter they had received absolutely no meat; a pint of cornmeal, often with the cob ground in, sometimes with and sometimes without salt, a handful of 'cow peas,' and sometimes sorghum molasses, constituted their usual ration. When in hospital, they had only very thin cornmeal gruel, and a little corn-bread. To the debility occasioned by this insufficient food, was added that resulting from exposure. It was a common thing for a prisoner, immediately on being taken, to be stripped of his clothing—shoes, socks, pantaloons, shirt, and drawers—and to be left with only an old and worn-out pair of drawers, and, perhaps, an equally worn-out shirt and blanket given him in exchange This robbery of clothing was also practised, more or less, upon officers. Even an assistant-surgeon who was captured within four miles of Richmond, told me he was robbed of his flannel shirt, while standing in front of the Libby Prison, and in presence of the rebel officer in charge of the squad. This was immediately after his arrival in the city, and when he had been for the three days succeeding his capture, entirely without food. With the scanty clothing thus left them, the men were kept during the winter, often without any shelter, excepting such as they could contrive to provide by

excavating a sort of rifle-pit in the ground, and covering it with old blankets or canvas, as their supply of fuel was insufficient, and sometimes entirely wanting; even in the hospitals, their suffering from cold was very great.

"One of the most melancholy sights in Wilmington, was that to be seen at the 'Geer' Hospitals. In these hospitals were collected all those patients who had lost their feet, either wholly or in part, by freezing, from their exposure during the past winter, and this in a well-wooded country. In some of them, two or three toes only, on one or both feet, were gangrened, and in process of separating by ulceration; in others, both feet had entirely separated, and the patients were awaiting the time when their general strength, and the condition of the stump, would warrant a final amputation. In many cases, the patients ascribed this gangrene directly to frostbites received on particular occasions; in others, to their illness from which they were suffering—generally fever combined with exposure. My own impression, derived from the result of many inquiries, was that it was generally due to a continuous depression of the vital energies from starvation and neglect, resulting gradually in a destruction of the life of those parts most exposed to the cold and the weather."

The accompanying extract from a letter written by Dr. Agnew, dated Wilmington, March 20th, 1865, paints in such terrible colors the appearance of these poor victims of rebel hate, that we have no word to add to their appeal to the civilized world for judgment on those who permitted and those who did such deeds.

"General Abbott, who received our poor fellows in the exchange, has just told me that language would utterly fail to describe their condition. Filth, rags, nakedness, starvation, were personified. Many of the men were in a state of mind resembling idiocy, unable to tell their names, and lost to all sense of modesty, unconscious of their nakedness and personal condition. Some of them moved about on their hands and knees, unable to stand upon their gangrenous feet, looking up like hungry dogs, beseeching the observer for a bite of bread or a sup of water. Some of them hitched along on their hands and buttocks, pushing gangrenous feet, literally reduced to bone and shreds, before them. Others leaned upon staves, and glared from sunken eyes through the parchment-like slits of their open eyelids into space, without having the power to fix an intelligent gaze upon passing objects. Others giggled, and smirked, and hobbled, like starved idiots; while some adamantine figures

walked erect, as though they meant to move the skeleton homewards so long as vitality enough remained to enable them to do so. To see the men who remain here in hospital, would move a heart as hard and cold as marble. Their condition is that of men who have for months suffered chronic starvation. Their arms and legs look like coarse reeds with bulbous joints. Their faces look as though a skilful taxidermist had drawn tanned skin over the bare skull, and then placed false eyes in the orbital cavities. They defy description. It would take a pen expert in the use of every term known to the anatomist and the physician, to begin to expose their fearful condition."—*Boston Medical and Surgical Journal.*

Editorial.

SANITARY COMMISSIONS AND FAIRS. THEIR MORAL AND MEDICAL RESULTS.

The great North-Western Fair for the benefit of the Sanitary Commission and of the Soldier's Home, is now in full and successful progress. As the iniquitous rebellion is now put down by the skill of our generals and the patriotic valor of our troops, helped not a little, we know, by the quiet services of the medical officers of the army, this is probably the last fair the Sanitary Commission will ever hold, until some future war shall demand new efforts: hence, it is a suitable time to review its work and judge of its usefulness.

The idea of the Commission is derived from the British society of the same character, which was established during the Crimean war. The primary object of such a body is, of course, to promote the health of the army by every possible means. When the Commission first commenced its labors, many judicious men felt grave doubts as to its usefulness. Officers of the army felt that a sort of insult was implied by the presence and labors of a body whose very existence presupposed some deficiency in the proper management and supply of the army, and especially of its medical department. Civilians asked the

question, whether it was wise to attempt to supplement any deficiencies of the government, and of the army officers, in the supplying and relieving of the men by means of an outside organization, which had no authority in the service, and might become loose and injudicious in its action. It was a serious question whether it would not be better to have every proper relief and supply furnished by the government through its own compact and efficient official machinery, and, if there was any deficiency in that respect, to lash the authorities up to their duty by public opinion and the press. It was feared, also, that if the Commission proved efficient, that the government might come, in some measure, to rely on it for those sanitary helps which ought to be furnished by official authority, and so the care of these important interests be insensibly transferred from the compact, well-organized, and responsible medical depart ment to a less complete outside body, which, from the nature of the case, might prove irregular and uncontrollable in its action. Such were the grave questions which passed through the minds of thinking men at the outset of the war.

After four years' experience, these fears have happily proved unfounded, and it is desirable that a clear and philosophic view of the character and tendency of the Sanitary operations should exist among medical men.

1st. There are serious objections to the government adding to the cumbrousness of army supplies and transportion, by providing a regular system of luxuries and sanitary conveniences, in such a way as to be always accessible. It adds to the *impedimenta*, and increases the force of clerks, teamsters, quartermasters, and other non-combatants, and opens the door to many abuses. Even the simple rule for a hospital fund, has to be suspended often in long or rapid marches. At such times the army must strip itself for the fight, and carry nothing, and provide for nothing but absolute necessities. It is well, therefore, to allow the people to make voluntary contributions to the comfort of the sick and wounded, whenever the position and movements of the forces permit. It is also true that there is a certain indirect benefit to the army, in various ways, from this

mode of communication with those in civil life: for, first of all, the fact that hospitals are seen and watched by the public, and liable to the praise and censure of those at home, and of the public press, is a powerful incentive to the medical officers to have everything accomplished in a creditable manner, and to cause their patients to feel comfortable and cheerful, by every possible means, in order that their reports may be of a complimentary character.

2d. The agents of the Sanitary Commission furnish an avenue through which the sympathies of the armies in the field and of the people at home mingle with and correct each other. If there ever shall be danger that the overpowering influence of a great military chief may be sufficient to lead the army on to the destruction of civil liberty, it will be well that the people have representatives fresh from their midst who will convey to the army the sentiments of those at home, and to those at home the feelings of the army, without the intervention of official dispatches. This communication being well kept up, the troops will be one in sentiment with the people, and no man can mount over them to despotic power, unless both people and soldiers agree in desiring it.

Lastly. Much valuable information is conveyed to the soldiers, officers, and surgeons, concerning their health. The documents published by the Commission at the beginning of the war, on gunshot wounds and other topics, were of great benefit to the medical officers. The final reports upon hospital and other medical matters, for which the facts are now being gathered, will also be of the utmost value in any future war. On the whole, therefore, we are agreeably impressed with the belief that the Sanitary Commission has been the instrument of great and permanent good.

Transactions of the State Medical Society.—Several of the papers read before the State Society have not yet been forwarded to the Publishing Committee, and the publication of the Transactions is delayed in consequence. It is hoped that these papers will be sent without delay, to Prof. N. S. Davis, Chicago, Ill.

THE AMERICAN MEDICAL ASSOCIATION.—The meeting now in progress at Boston, is worthy of notice, as being the first since the war commenced which has had anything like a Southern delegation present. The war is now closed, and the objects for which it was carried on have been gloriously won. Now is the time, therefore, to turn our attention again to the culture and elevation of medical science. To this end it is essential to have a cordial feeling among the medical men of all sections. The vanquished are apt to feel sore over their defeat, and hence it is commonly easier for the victors to make the first overtures of friendship. We trust that no efforts will be spared to make medical men forget past divisions, and, looking only to the future, go on hand-in-hand to victories greater than those of war, and better for the welfare of the human race. The consolidation of the union of the States ensures the prospect that this nation will, at no remote period, tower among the most gigantic of the earth. It will be our fault if its scientific progress and the ameliorating effects of the healing art do not keep pace with its material grandeur. To this end, the success of the American Medical Association is an important means. It is at present the sole medium of general consultation and intercourse, and our representative before the world. It furnishes an opportunity for men from every part of the land to meet their fellows, compare their ideas, imbibe the grateful sense of unity and fellowship, and to return with enlarged views to distribute a like influence in their own sections. At the time of writing these thoughts, the place of the next meeting has not been determined, but it is not improbable that it may be in some of the Southern cities. If this should be the case, let us see to it that the representation is full and cordial, and that the objects of the organization be carried out with earnestness and power.

The present meeting was opened in the Representatives' Hall, in the State House, at Boston. The meeting was called to order by Dr. N. S. DAVIS, the President, and opened by prayer by the Chaplain.

Prof. BIGELOW, the Chairman of the Committee of Arrangements, then gave an address of welcome to the delegates from all parts of the Union.

Prof. DAVIS then delivered his annual address. He commenced by congratulating the Association on the glorious victories which have restored our flag to its supremacy in every part of the land, and given us, at last, a return of our brave soldiers, decorated with wreaths of victory and enshrined in a nation's gratitude. He then passed to a notice of the distinguished dead of the year, alluded to the past history of the Association, followed by a discussion of the best methods of conducting its affairs and correcting certain errors in the management of its meetings. He then closed by an appeal to the members to carry forward the work of the organization to the full attainment of its beneficent objects.

CHICAGO ACADEMY OF SCIENCES.—This enterprising society has undergone, during the past year, a complete reorganization. In its new form, it has raised a fund of $70,000, and has established a large scientific museum, with the best of prospects. Mr. ROB'T. KENNICOTT, the Arctic explorer, has been appointed director of the museum, and has now gone, in the interest of the Academy, on a new zoological exploration to the unknown regions near Behring's Straits. Prof. STIMSON, the distinguished zoologist from Washington, is curator and secretary of the institution. A superb volume of transactions is now being published, by the liberality of citizens of Chicago, which will be very handsomely illustrated with colored plates of new species of fossils and animals found in the collection of the Academy.

SOLDIER'S HOME.—The Soldier's Home of this city is a place provided for the residence and treatment of discharged invalid soldiers. It is beautifully situated in the south part of the city, and directly on the lake-shore. It owns a spacious lot and two good buildings, which are occupied by wounded and sick men from the army. The students of Chicago Medical College witnessed there, during the last session, a number of very important surgical operations. The Home is to receive $25,000 of the proceeds of the great fair now in progress in this city. This money will greatly enlarge its capacity and usefulness.

THE COMMITTEE ON OPHTHALMOLOGY, (Illinois State Medical Society), has called our attention to the fact, that his remarks upon pressure in conjunctivitis, and the use of muriate of ammonia in iritis, were not included in his report, but were made informally, full credit for their use being accorded to Surgeon J. S. HILDRETH, of the U.S. Ophthalmic Hospital, in Chicago.

PERSONAL.—Prof. H. A. JOHNSON, of Chicago Medical College, is now on a visit to Europe, for the combined object of the restoration of his health, and of observation on medical matters in Europe. At last accounts he was at Venice, with greatly improved health.

Prof. CHAS. POPE, of St. Louis, is also on a visit to the same region, and was recently in Rome.

COMPLIMENT TO AN ARMY SURGEON.—That gallant soldier, Gen. Sherman, who has done so much for the reëstablishment of our union, and the crushing of rebellion, lately remarked in a conversation:—"On my long march from Atlanta to Savannah, not a single wounded or sick man was left behind. They were all brought through, and the few that died were carefully buried, each with a head-board properly marked, and the place recorded; and this I owe to the superior management of my medical director, Surgeon MOORE, a man of the highest excellence and capacity.

PARISIAN HOSPITALS.—M. MAISONEUVE, the distinguished French Surgeon, treats varicose veins exclusively by hypodermic injections of perchloride of iron. Many prominent Parisian surgeons have abandoned the practice, almost entirely, of closing wounds by first intention, believing that in this way there is greater danger of erysipelas and pyæmia, than in wounds left open and cauterized. Prof. POPE says that some of them have almost abandoned the knife, using various ingenious cauteries, ecraseurs, etc., from the same dread of pyæmia, believing that by the use of the knife one patient is inoculated with the secretions of another. All this may doubtless happen, but

would it not be better to learn to clean their knives better, and ventilate their hospitals more perfectly, instead of returning to the surgery of the dark ages? Erysipelas and pyæmia can be effectually prevented by only two modes, viz., sufficient ventilation, and avoidance of infection. In the light of modern science, the old hospitals of Paris, as well as of other cities, are radically deficient in the supply and distribution of pure air. The world will yet see an entire overthrow of our old system of hospital construction. The old buildings are mostly incapable of being rectified, and will have to be abandoned and better ones built. When this is done fully, and the patients are properly prepared before operations, and properly managed after them, erysipelas and pyæmia will almost cease to be dangers in surgery.

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DOUGLAS BLY, M.D., *U.S. Commissioner.*

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DR. MOTT ON ARTIFICIAL LEGS.

NEW YORK, FEBRUARY 10, 1860.

When the Palmer leg was invented, I recommended it to all who needed anything of the kind, because it was an improvement on the old Anglesia leg. And now I have the pleasure of informing them that Dr. Bly has invented a leg which is a great improvement on the Palmer leg. The advantages it possesses over the Palmer leg are:—

FIRST. The ankle-joint admits of motion not only antero-posteriorly, but laterally, which allows the wearer to walk on any grade, or on rough and uneven surface, without inconvenience.

SECOND. The ankle-joint is constructed without iron, steel, or metal of any kind; in fact, little or no metal is used in the limb, which renders it very light.

THIRD. The joints, instead of being bushed with buckskin, which requires a renewal at the hands of the maker, when worn, are adjustable, and under the control of the wearer.

FOURTH. The springs are made of India-rubber, and imitate more closely the action of the muscles.

FIFTH. The action of the springs can be increased or diminished at the option of the wearer, whereby each can adjust the motions of the leg to suit his own peculiar gait.

VALENTINE MOTT, M.D.
Emeritus Prof. of Surgery and Surgical Anatomy in the University of New York.